Quality of life of geriatric population: a comparative study in Urban and Rural Areas of Kanpur Nagar

Sonam, Tanu Midha, Seema Nigam, Santosh Kumar Barman, Punit Varma, Samarjeet Kaur
Department of Community Medicine, Ganesh Shankar Vidyarthi Memorial Medical College, Kanpur, Uttar Pradesh

CORRESPONDING AUTHOR
Dr. Sonam, Junior Resident, Department of Community Medicine, Ganesh Shankar Vidyarthi Memorial Medical College, Kanpur, Uttar Pradesh 208002
Email: Sonam251094@gmail.com

ABSTRACT

Introduction: According to 2011 census, India has 104 million elderly (above 60 years), constituting 8.6% of the total population.The elderly population in India will rise to 12.4% of the population by 2026 and is projected to be 20% by 2050. Hence, these differing area-wise characteristics has led in the planning of the present study with aim to assess QOL of the elderly in urban and rural settings. **Methodology:** A community based Cross-sectional Study was conducted among Elderly (> 60 years) of urban and rural areas of Kanpur Nagar. A multistage systematic random sampling was done to select Study subjects from urban and rural areas of Kanpur Nagar District over a time period of June 2024 to February 2025. **Results:** Among study subjects in urban areas QOL scores in physical domain was 50.5±10.8 and among study subjects in rural areas QOL scores was 52.2±9.80. In Psychosocial domain, QOL scores for urban area was 45.9±11.5 and for rural area was 49.1±10.17. QOL scores in Social relationship domain for urban area study subjects was 50.5±10.8 and for rural area was 52.2±9.80. QOL scores in Environment domain was 54.1±13.4 for urban area and 57.5±11.60 for area study subjects. **Conclusion:** Maintaining and enhancing a healthy lifestyle like increase physical activity, healthy and balanced diet, no use of tobacco and alcohol will improve the elderly population's quality of life.

INTRODUCTION

Ageing is accompanied by constellation of complex and interrelated conditions that significantly impact the health, independence, and quality of life of elderly.(1) Since, the child survival and life expectancy had increased and fertility and death rates had decreased in the past decades; this progressive demographic transition has leads to increase number of elderly. (2,3)

According to 2011 census, India has elderly constituting 8.6% of the total population.(4) With the decline in fertility and mortality rates, a significant feature of demographic change of elderly persons.(Longitudinal Ageing Study in India)(5) According to WHO, quality of life is individual's perceptions in the context of culture and value systems in relation to their goals, expectations, standards and concerns. (6,7)

Today's is not just the treatment of the underlying disease, but also the improvement of QOL in all domains, including physical, psychological, emotional, security, and social. (8)

The quality of life for elderly people is significantly influenced by their living conditions, healthcare systems, social support networks, and economic prospects.(9) Urban regions provide better social services, healthcare facilities, and accessibility, but also face challenges such as pollution, overcrowding, and fewer family support networks.(10,11) In contrast, rural areas may have a more peaceful and socially connected environment but often lack sufficient access to

services tailored for seniors, healthcare, and transportation. a comparative evaluation of the quality of life (QoL) of older adults in urban and rural settings is essential to identify needs, disparities, and areas focussed government intervention.(7,12)

Hence, these differing area-wise characteristics has led in the planning of the present study with aim to assess QOL of the elderly in urban and rural settings.

Objective: To compare the quality of life of geriatric population in urban and rural areas

MATERIAL & METHODS

Study design & type: A community based Cross-sectional Study was conducted among Elderly (> 60 years) of urban and rural areas of Kanpur Nagar.

Sampling technique & study settings: A multistage systematic random sampling was done to select Study subjects from urban and rural areas of Kanpur Nagar District over a time period of June 2024 to February 2025. **Inclusion & exclusion criteria:** Elderly residents of Kanpur Nagar(>1year), giving informed aged above 60 years were included. Elderly suffering from psychiatric illness or who were not able to perceive and respond or who refused to give consent were excluded from the study.

Sample size: The sample size was calculated using prevalence from Vandana et al (13) which was 256 in each area.

Study tool & sample collection: Data was collected using a pre-structured questionnaire by direct interview method. The questionnaire has two parts a) Sociodemographic profile b) Quality of life (WHO Quality of Life Questionnaire). The collected data was entered and compiled using MS Excel.

Data analysis: Data was analysed using the SPSS, trial version 29.0.2.0(20). Descriptive statistics such as frequency along with their percentage for categorical variables; mean and standard deviation for continuous variables were determined. For categorical dependent and independent variables, the chi-square test was used to demonstrate an association between. Independent t-test was used to demonstrate an association between continuous dependent and independent variables. A 'p' value less than 0.05 was considered statistically significant.

Consent & ethical clearance: The ethical clearance was obtained from the Institutional Ethics Committee (For Biomedical Health & Research) of GSVM Medical College Kanpur UP, before commencing of the study. Participants were ensured about their privacy and confidentiality of their collected personal and medical data.

Figure 1: Sampling strategy of the study
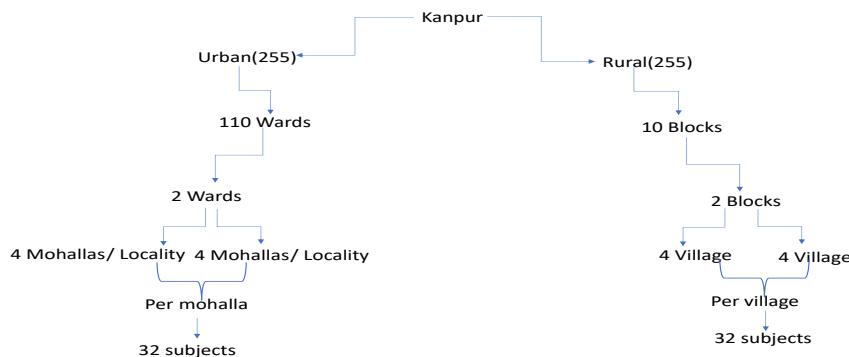
RESULTS

Table 1 illustrates that among study subjects QOL scores in physical and social domain the difference between both areas was not statistically significance. In Psychosocial domain, QOL scores for urban area study subjects was 45.9±11.5 and for rural area study subjects was 49.1±10.17, this difference was found to be statistically significant. QOL scores in Environment domain was 54.1±13.4 for urban area study subjects and 57.5±11.60 for area study subjects, this difference was statistically significance. **Table 2** shows QOL scores(urban) There was association between gender and QOL

scores; and age and QOL score ; education and QOL scores; occupation and QOL scores. QOL scores of nuclear family in the physical domain was 48.65±9.63, in psychosocial domain was 45.70±9.93, in social relationship domain was 57.26±14.56 and in environment domain was 52.51±11.85. QOL scores of joint family in the physical domain was 53.26±11.59, in psychosocial domain was 48.54±11.81, in social relationship domain was 61.18±14.90 and in environment domain was 56.15±13.99. There was significant association between type of family in physical domain, psychosocial domain, environment

domain and QOL scores. Association between marital status and QOL score in environment domain(p=0.011) was significantly associated. **Table 3** shows QOL scores(rural) There was association between gender and QOL scores; and age and QOL score ; education and QOL scores; type of family and QOL scores. Association between occupation and QOL score in social relationship domain(p=0.022) was significantly associated.

Figure 2: Gender wise distribution of urban participants

Male, 42.18
Female, 57.8
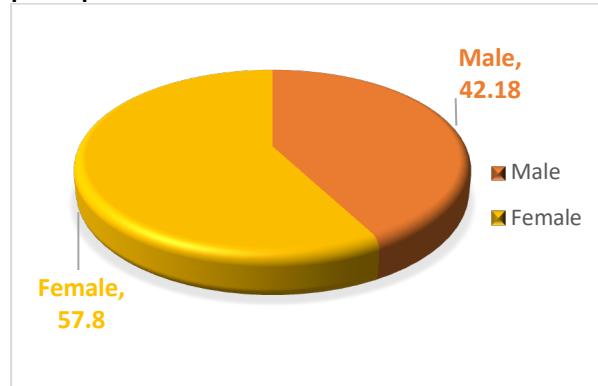
Figure 3: Gender wise distribution of rural participants

Male, 45.3
Female, 57.8
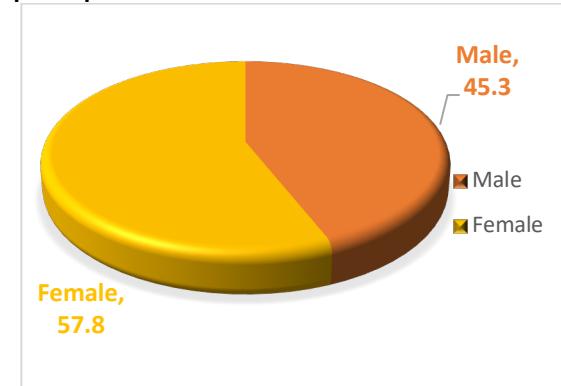
Figure 4: Participants distribution according to Socio-economic Status

Class	URBAN	RURAL
Class 1	32.4	10.1
Class 2	45.7	13.6
Class 3	14.8	28.5
Class 4	6.25	35.1
Class 5	0.39	12.5
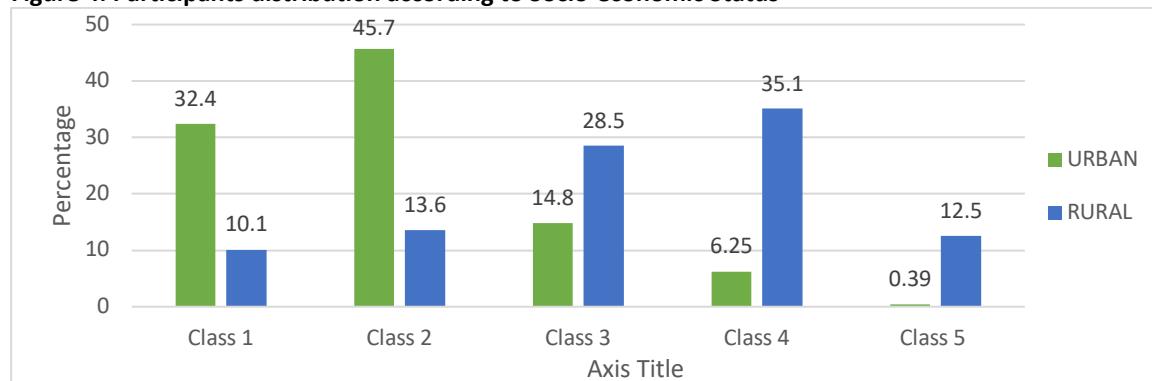
Figure 5: Comparison of Quality of life in urban and rural area

Domain	Urban	Rural
Physical	50.5	52.2
Psychosocial	45.9	49.1
Social relationship	58.8	60.3
Environment	54.1	57.5
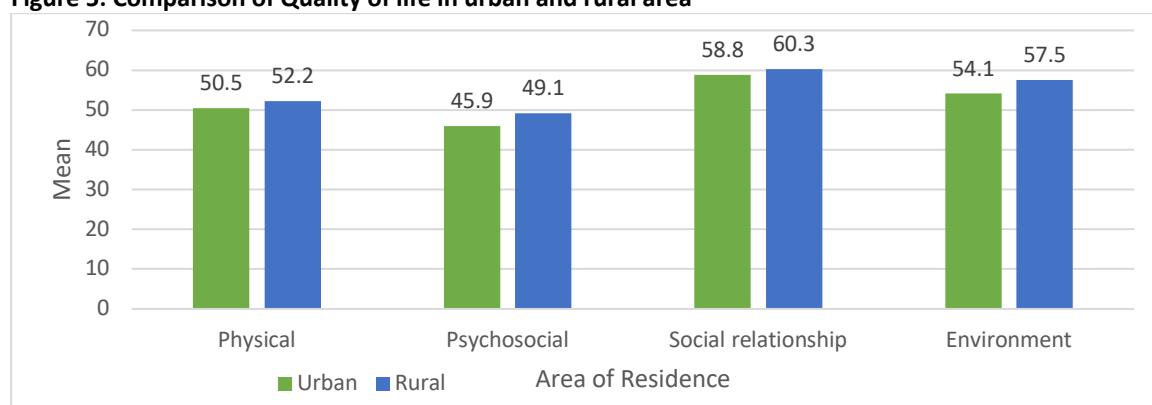
Table 1: Comparison of Quality of life in urban and rural area

Domain	Urban		Rural		P value
	Mean	SD	Mean	SD	
Physical	50.5	10.8	52.2	9.80	0.066
Psychosocial	45.9	11.5	49.1	10.17	<0.001
Social relationship	58.8	17.0	60.3	13.97	0.269
Environment	54.1	13.4	57.5	11.60	0.002

Table 2: Comparison of Quality of life with sociodemographic characteristics in urban area

Sociodemographic characteristics		Physical		Psychosocial		Social relationship		Environment	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age(yrs)	60-70	51.41	10.3	47.96	10.40	59.23	15.94	56.08	13.1
	70-80	49.87	12.2	44.21	12.13	57.41	14.21	53.13	12.5
	>80	49.89	10.8	47.00	14.56	60.72	14.96	57.83	13.6
	P value	0.581		0.079		0.640		0.233	
Gender	Male	50.41	10.6	46.12	11.24	58.90	15.25	54.76	13.2
	Female	51.66	11.0	48.20	11.13	58.90	15.78	56.52	12.9
	P value	0.362		0.143		1.0		0.288	
Religion	Hindu	51.30	10.6	47.21	11.15	59.40	15.53	55.90	13.0
	Muslim	46.71	12.4	44.71	12.51	53.86	14.50	51.62	13.5
	Others	53.00	4.24	47.00	4.243	53.00	4.243	50.00	.000
	P value	0.173		0.624		0.250		0.300	
Marital status	Married	51.49	10.9	47.02	11.00	59.99	15.85	55.48	12.7
	Unmarried	46.42	8.03	41.33	11.50	53.58	17.05	45.42	11.0
	Widow/ Widower	53.25	8.13	54.75	10.68	53.00	3.464	67.25	8.01
	P value	0.323		0.160		0.266		0.011	
Educational Qualification	Illiterate	49.57	10.2	47.22	10.59	57.11	14.86	53.19	13.3
	Primary	53.66	12.3	48.38	14.00	58.41	16.10	58.10	15.6
	Middle	47.70	10.4	46.43	11.05	57.11	14.69	54.57	11.4
	High school	50.60	10.2	46.55	11.96	58.62	12.94	53.83	11.8
	Intermediate	54.53	12.3	47.95	11.56	64.11	17.38	59.76	12.9
	Graduate	51.39	8.88	45.22	9.018	58.81	17.21	55.67	13.5
	Post graduate/ Professional degree	59.50	4.95	56.50	9.192	72.00	4.243	63.00	.000
	P value	0.050		0.780		0.298		0.189	
Occupation	Unemployed/housewife	51.11	11.8	47.13	11.74	58.59	14.54	55.70	13.5
	Retired	49.21	10.7	45.74	10.44	57.85	17.23	53.33	10.4
	Skilled	51.23	8.89	47.87	11.21	60.51	16.53	53.51	10.4
	Business/agriculture	51.12	8.63	45.76	11.22	57.71	11.16	53.76	13.0
	Semi-professional	50.61	10.5	46.15	10.54	57.87	16.35	57.15	15.5
	Professional	56.44	15.3	52.78	10.98	67.33	13.81	62.11	13.1
	P value	0.759		0.721		0.730		0.379	
Type of family	Nuclear	48.65	9.63	45.70	9.937	57.26	14.56	52.51	11.0
	Joint	53.26	11.5	48.54	11.81	61.18	14.90	58.15	13.9
	P value	0.005		0.123		0.073		0.004	
Socioeconomic Class	Class I	50.76	11.4	45.88	11.02	59.51	14.35	55.29	13.5
	Class II	50.77	11.6	46.95	12.61	59.15	17.52	56.67	14.7
	Class III	51.85	8.58	48.85	9.083	56.87	14.00	54.13	8.07
	Class IV	50.88	6.76	49.63	7.375	59.00	12.47	53.19	9.24
	Class V	-	-	-	-	-	-	-	-
	P value	0.988		0.561		0.882		0.752	

Table 3: Comparison of Quality of life with sociodemographic characteristics in rural area

Sociodemographic characteristics		Physical		Psychosocial		Social relationship		Environment	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age(yrs)	60-70	51.29	10	47.7	10.78	60.53	16.36	55.75	12.4
	70-80	53.47	8.96	48.57	10.49	59.09	12.28	57.53	10.5
	>80	53.8	7.15	55	9.274	61.2	7.12	59	13.5
	P value	0.349		0.298		0.84		0.576	
Gender	Male	51.69	9.83	47.94	10.8	60.31	15.68	55.99	12.1
	Female	52.21	9.71	48.63	10.05	59.96	14.38	57.63	12.2

Sociodemographic characteristics		Physical		Psychosocial		Social relationship		Environment	
Religion	P value	0.231		0.282		0.056		0.973	
	Hindu	51.69	9.83	47.94	10.8	60.31	15.68	55.99	12.1
	Muslim	52.21	9.71	48.63	10.05	59.96	14.38	57.63	12.2
	Others	-	-	-	-	-	-	-	-
Maital status	P value	0.806		0.765		0.915		0.53	
	Married	51.35	9.78	47.82	10.77	60.33	15.8	56.03	11.9
	Unmarried	51.3	7.63	50.2	12.39	56.2	11.72	60	16.2
	Widow/ Widower	47	22.6	37.5	9.192	50	0	47	22.6
Educational Qualification	P value	0.147		0.402		0.566		0.539	
	Illiterate	52.11	10.3	47.98	12.05	58.07	14.93	56.38	13.6
	Primary	52.82	9.49	49.06	10.31	62.12	15.37	57.09	11.8
	Middle	49.52	9.5	48.9	10.83	62.04	15.46	57.62	12.2
	High school	52.79	9.56	46.64	10.51	59.96	16.67	55.62	11.5
	Intermediate	52.21	10.2	46.79	10.42	59.28	15.84	55.76	11.3
	Graduate	51.48	10.2	48.06	10.48	59.67	16.38	55.42	11.7
	Post graduate/ Professional degree	51.63	7.89	50.13	6.686	64.75	11.13	48.63	9.78
Occupation	P value	0.724		0.91		0.802		0.643	
	Unemployed/housewife	53.58	9.33	49.41	10.38	63.55	14.22	57.89	10.4
	Retired	49.69	8.39	46.25	9.983	54.31	7.561	54.81	10.9
	Skilled	53	9.82	48.69	10.98	65.07	14.82	59.76	13.6
	Business/agriculture	52.44	8.11	47.69	10.35	63.63	18.81	55.25	13.8
	Semi-professional	50.17	10.1	47.63	11.34	56.99	16.67	55.22	12.8
	Professional	50.18	11	43.76	9.135	56.29	15.67	48.88	9.66
Type of family	P value	0.335		0.582		0.022		0.082	
	Nuclear	50.52	9.47	48.25	10.27	57.76	16.11	56.05	12.5
	Joint	52.63	9.98	47.73	11.31	62.48	15.02	56.43	11.9
Socioeconomic Class	P value	0.188		0.913		0.059		0.731	
	Class I	54.15	10.6	50.85	11.53	66.35	17.36	57.65	14.3
	Class II	53.14	9.44	48.66	9.747	63.06	14.42	57.49	12.2
	Class III	51.25	10.4	46.45	10.56	60.88	15.42	55.37	11.7
	Class IV	51.61	9.03	49.27	10.19	58.18	15.17	57.29	11.3
	Class V	49.72	10.1	44.94	12.2	56.88	15.35	51.97	12.7
	P value	0.429		0.117		0.078		0.22	

DISCUSSION

In the present study among study subjects of the urban area, QOL score in the physical domain was 50.5±10.8, similarly, a Study by (11) revealed 54.29±18.07 score. QOL score for urban area study subjects was 45.9±11.5 in the Psychosocial domain, similar to 50.85±20.33 score by (11). QOL scores(urban) in the Social relationship domain for urban was 50.5±10.8, similarly in (11) 46.42±21.06. In our study, QOL score in the Environment domain was 54.1±13.4 for urban area study subjects, similarly, 49.75±18.54 score by (11). In the present study among study subjects of the rural area, QOL score in the physical domain was 52.2±9.80, while in (14) the score was 74.29±10.38. This difference is due to better health facilities in Delhi, where (14) has conducted study. QOL scores(urban) in the Psychosocial domain for rural was 50.5±10.8, while in (11) 80.29±10.38. Due to better recreational

facilities in Lucknow, (11) had found high QOL (score). In our study, QOL score in the Social relationship domain was 52.2±9.80 for rural area study subjects, while 88.25±12.38 score by (11) because of good socializing in the study area. In our study, QOL score in the Environment domain was 57.5±11.60 for rural area study subjects, while 74.29±10.38 score by (11). Presence of more equipped facilities in the capital has led to high QOL scores. QOL score of male in the physical domain was 51.69±9.83, in psychosocial domain was 47.94±10.80, in social relationship domain was 60.31±15.68 and in environment domain was 55.99±12.1, similarly QOL score observed by (10)in the physical domain was 63.36±16.72, in psychosocial domain was 53.92±13.65, in social relationship domain was 57.73±18.34 and in environment domain was 65.14±14.19. QOL scores of female in the physical domain was 52.21±9.8, in psychosocial domain was 48.63±10.05, in social

relationship domain was 59.96±14.38 and in environment domain was 57.63±12.2, similarly QOL score observed by (10) in the physical domain was 58.42±14.5, in psychosocial domain was 50.60±12.38, in social relationship domain was 46.77±17.32 and in environment domain was 60.52±13.8. QOL score of illiterates in the physical domain was 52.11±10.3, in psychosocial domain was 47.98±12.05, in social relationship domain was 58.07±14.93 ansd in environment domain was 56.38±13.6, similarly QOL score observed by (10) for illiterates in the physical domain was 56.90±15.8, in psychosocial domain was 49.16±12.29, in social relationship domain was 44.87±17.6, in environment domain was 65.98±12.78. QOL score of unemployed/ housewife in the physical domain was 53.58±9.3, in psychosocial domain was 49.41±10.38, in social relationship domain was 63.55±14.22 and in environment domain was 57.89±10.4. Similarly, QOL score observed by (10) for unemployed/ housewife in the physical domain was 58.15±14.4, in psychosocial domain was 50.45±12.18, in social relationship domain was 47.84±17.45 and in environment domain was 61.28±13.61. QOL score of nuclear family in the physical domain was 50.52±9.47, in psychosocial domain was 48.25±10.27, in social relationship domain was 57.76±16.11 and in environment domain was 56.05±12.50. similarly, QOL score observed by (10) for nuclear family in the physical domain was 60.51±16.80, in psychosocial domain was 52.89±14.30, in social relationship domain was 55.73±20.84 and in environment domain was 64.05±15.62. QOL score of joint family in the physical domain was 52.63±9.9, in psychosocial domain was 47.73±11.31, in social relationship domain was 62.48±15.02 and in environment domain was 56.43±11.9. , similarly QOL score observed by (10) for joint family in the physical domain was 60.85±15.48, in psychosocial domain was 51.93±12.64, in social relationship domain was 50.64±17.60 and in environment domain was 62.24±13.63.

CONCLUSION & RECOMMENDATION

Access to facilities for free time, such as clubs, libraries, and places of worship should for mental and psychosocial wellbeing. Urban elders had higher scores in environmental categories and rural elders have a superior quality of life in terms of autonomy and social relationships. This highlights a need for increasing social support networks in urban areas and improving environmental conditions in rural places improve the well-being and dignity of the aging population in both contexts. Maintaining and enhancing a healthy lifestyle like increase physical activity, healthy and balanced diet, no use of tobacco and alcohol will improve the elderly population's quality of life. Establishing and enhancing social groups, particularly in rural and urban areas, to engage and motivate the elderly people to engage in healthy living activities such as yoga and exercise.

AUTHORS CONTRIBUTION
All authors have contributed equally.

CONFLICT OF INTEREST
There are no conflict of interest.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS
The authors haven't used any generative AI/AI assisted technologies in the writing process.

REFERENCES

1. Ageing and health India [Internet]. [cited 2025 Mar 19]. Available from: https://www.who.int/india/health-topics/ageing
2. Park's 27th edition full text.
3. WHOQOL - Files| The World Health Organization [Internet]. [cited 2025 Apr 28]. Available from: https://www.who.int/tools/whoqol/whoqol-bref
4. Kumar S, Bansal A, Shri N, Nath NJ, Dosaya D. Effect of food insecurity on the cognitive problems among elderly in India. BMC Geriatr. 2021 Dec 1;21(1):725.
5. Longitudinal Ageing Study in India (LASI) India Executive Summary National Programme For Health Care Of Elderly & International Institute For Population Sciences Ministry Of Health & Family Welfare Government Of India.
6. ELDERLY in INDIA 2021 [Internet]. Available from: https://mospi.gov.in/web/mospi/reports-publications .
7. Vaishnav LM, Joshi SH, Joshi AU, Mehendale AM. The National Programme for Health Care of the Elderly: A Review of its Achievements and Challenges in India. Vol. 26, Annals of Geriatric Medicine and Research. Korean Geriatrics Society; 2022;26(3)183–195.
8. Singh A, Palaniyandi S, Palaniyandi A, Gupta V. Health related quality of life among rural elderly using WHOQOL-BREF in the most backward district of India. J Family Med Prim Care. 2022;11(3):1162–8.
9. Gil-Lacruz M, Gil-Lacruz AI, Domingo-Torecilla P, Cañete-Lairla MA. Health-related quality of life and physical activity in a community setting. Int J Environ Res Public Health. 2021 Jul 2;18(14):7301.
10. Rajput M, Pinki, Shiba, Kumar S, Ranjan R. Determinants of quality of life of geriatric population in rural block of Haryana. J Family Med Prim Care. 2022;11(9):5103–9.
11. Gupta A, Mohan U, Tiwari S, Singh S, Singh V. Dimensions and determinants of quality of life among senior citizens of Lucknow, India. Int J Med Public Health. 2014;4(4):477.
12. Neelamana S, Janakiram C, Varma B. Oral health status and related quality of life among elderly tribes in India. J Family Med Prim Care. 2020;9(12):5976.
13. Verma V, Prakash S, Parveen K, Shaikh S, Mishra N. A comparative study of morbidity pattern in elderly of rural and urban areas of Allahabad district, Uttar Pradesh, India. Int J Community Med Public Health. 2016;3(5):1152-1156.
14. Qadri S, Ahluwalia S, Ganai A, bali shalender, Wani F, Bashir H. An epidemiological study on quality of life among rural elderly population of nothern India. Int J Med Sci Public Health. 2013;2(3):514.