ORIGINAL ARTICLE

Physical Well-being & Health Care Resource Utilization Among the Elderly in Banda District: A Cross-Sectional Study

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ABSTRACT

Background: The global elderly population is rapidly increasing, with numbers projected to rise from 740 million to 2.1 billion by 2050. In India, the elderly population is expected to increase by 56 million from 2021-2031. Uttar Pradesh has one of the largest elderly populations in India, with an estimated 13-15 million individuals aged 60 and above. **Aim & Objectives**: To assess the physical health status & health seeking behaviour among elderly population. **Material & Methods**: The study was a community-based, cross-sectional research focused on the elderly population (60+ years) in Banda district, Uttar Pradesh, spanning 18 months. The final study included 400 participants, with 200 from rural and 200 from urban areas. A multi-stage random sampling technique was utilized. Semi-structured questionnaire was used for data collection after taking the informed consent. **Results**: Nearly 40% of elderly perceived their health as 'Negative'. Eye, ENT, and musculoskeletal issues were more prevalent among urban population. In rural population had higher prevalence of gastrointestinal and central nervous system disorders, particularly in females. Majority of elderly contacted government facilities during illness (31.75%), which was slightly more in urban elderly, preferably among males. Elderly who did not utilized facilities during illness was 29.50%, which was highest among rural males (36.44%). **Conclusion**: Health perceptions were largely negative. Oral health issues were most common, followed by ENT disorders and eye problems. The main reasons for non-utilization of health services was affordability, particularly notable among urban females.

KEYWORDS

Elderly; Health Status; Well-being; Health Seeking Behaviour

INTRODUCTION

Aging involves ongoing molecular and cellular damage that leads to decreased physical and mental function, increasing the risk of disease and death. It is also influenced by life events like job loss or the death of loved ones.(1) Aging well focuses on maintaining mental, social, and physical well-being and ensuring smooth transitions through different life stages.(2)

By 2050, Nearly 67% of old people in the world will live in emerging nations. As to the World Health Organization (WHO), by 2030, nearly 17% people would be 60 years or older.(1) There are presently 740 million people in the globe aged 60 and above as of the end of the current decade, and this figure is predicted to rise to 1 billion, maybe 2 billion, by mid-century.(3)

India is the world's second largest country in term of elderly & demographic phases has been changing since last 5 decades, with nearly a thrice the population of the old.(4) India, currently has approximately 100 million elderly people, and this figure is predicted up to 323 million, or 20 percent of the total population, by 2050.(5).

Nearly 34 million elderlies in 2011–21 and projected to 56 million in 2021–31 in India. In 2011 the older adults' population was 8% of the total population and is expected to increase by 12.4% by

2026.(6) As per census 2011, Uttar Pradesh have 15.44 million elderly people, 12.44 million of them live in rural area.(4)

In India, the elderly population is growing rapidly due to factors such as a declining birth rate, better nutrition and healthcare, longer life expectancy, and the control of infectious diseases.(3) The elderly population's problems are caused by more than just aging. Many of the problems are caused by retirement and free time, which leads to poor self-image in the form of worry, despair, dissatisfaction, and life itself becoming a burden. In India, the old population suffers from both communicable and noncommunicable diseases. This is multiplied by malfunction of motor & sensory functions such as vision, loco-motor dysfunction, hearing, age-related physiologic changes, and immune decline, poor health care seeking and quacks practice all of which contribute to an increase in the burden of infectious diseases.(7)

Aim & Objective: To assess the physical health status and health seeking behaviour among elderly.

MATERIAL & METHODS

Study design: community-based, cross-sectional study

Study setting: Urban and rural area of Banda district, Uttar Pradesh.

Study population: individuals aged 60 years and above.

Study duration: period of 18 months from February 2023 to July 2024.

Sample Size: A pilot study (n=40, 20 for each rural and urban area) was conducted to assess the prevalence of morbidity among the elderly population. The prevalence rates for different health conditions were involved: Eye disorders: 40%, CNS: 26.67%, ENT: 33%, Respiratory System: 36.67%, Musculoskeletal: 13.96% (Lowest prevalence), Gastrointestinal: 26.67%, Cardiovascular System: 46.67%, Genitourinary: 16.67%. Since musculoskeletal disorders had the lowest prevalence (13.96%), it was used for sample size calculation. The formula applied was:

Sample Size Calculation: It was taken for the sample size calculation as shown under:

p = 13.96%

q = (100 - p) = 86.04%

d = 5% (Absolute precision)

Z = 1.96

For confidence interval = 95%,

Sample size (N) = Z2 x p x (1-p)/d2

Substituting the value: = {(1.96 x1.96 x 13.96 x 86.04)/25} = 184.57

After substitution, the calculated minimum sample size was 185. However, to improve the study's power, a total of 400 subjects (200 from rural and 200 from urban areas) were included.

Sampling technique & Data Collection: Azad Nagar ward from urban area & Tindwara from rural area was selected using simple random sampling technique (Lottery Method). Participants for the study were recruited based on specific criteria**: inclusion** included individuals aged 60 and above who provided written consent, while **exclusion** applied to those who did not consent, were severely ill or in a medical emergency, unable to communicate, or not present at the time of the visit. House to house survey was done till the required sample had achieved. After obtaining informed consent, eligible elderly was interviewed using a semi-structured and questionnaire using scheduled method. Data collection was performed by the first author.

Ethical issues & informed consent, data analysis: Ethical clearance was obtained from Ethical Committee from RDMC, Banda. Data analysis involved assigning unique codes to participants, checking paperwork for accuracy using Microsoft Excel for initial data handling, data was analyzed using SPSS Version 26.0. For descriptive statistics chi-square tests were employed, with significance set at a p-value of <0.05. (CI 95%). The study was approved by the Institutional Ethics Committee, RDMC, Banda. (IEC/RDMC/Cert/03; Date:19/01/2023)

RESULTS

Most of the elderly population was in the 60–69-year age group (54.50%) and were predominantly males (64.25%). The mean age of the elderly was 69.82 years, with a standard deviation of 7.02 years. It was observed that 69.50% elderly were presently in marital relationship & 13% elderly were living alone which was higher in rural area. Most of the elderly (41.75%) belonged to joint families, & family decisions primarily made by their children (41.50%). More than half (60%) of the elderly were financially dependent. Majority of the elderly were in the 'Middle' socioeconomic class (33.75%) & illiterate. (46%)

Negative perceived health was increasing with increasing age, maximum among those aged 80 and above (45.24%). The perceived health was nearly similar between males and females. Negative perceived health perceptions were higher among rural elderly (45%) compared to urban elderly, and this difference was statistically significant (p-value = 0.005). Elderly individuals in the 'others' category (widowed, separated, unmarried, or divorced) had higher perceptions of Negative health.(Table 1)

Table 1: Self Perceived health status among study group on basis of Bio-social profile: (N=400)

Variables	Excellent	Very Good	Good	Bad	Very Bad	Total	p-value*
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	
Age (Y)							
60-69	42(19.27)	39(17.89)	54(24.77)	32(14.68)	51(23.39)	218(100)	0.443
70-79	23(16.43)	20(14.29)	36(25.71)	34(24.29)	27(19.29)	140(100)	
≥80	7(16.67)	8(19.05)	8(19.05)	11(26.19)	8(19.05)	42(100)	
Gender							
Female	22(15.38)	23(16.08)	40(27.97)	26(18.18)	32(22.38)	143(100)	0.696
Male	50(19.46)	44(17.12)	58(22.57)	51(19.84)	54(21.01)	257(100)	
Residence							
Rural	23(11.50)	30(15.00)	57(28.50)	43(21.50)	47(23.50)	200(100)	0.005*
Urban	49(24.50)	37(18.50)	41(20.50)	34(17.00)	39(19.50)	200(100)	
Education							
Illiterate	28(15.22)	31(16.85)	44(23.91)	40(21.74)	41(22.28)	184(100)	0.731
Primary	10(16.13)	8(12.90)	18(29.03)	12(19.35)	14(22.58)	62(100)	
Middle to intermediate	24(19.83)	21(17.36)	28(23.14)	22(18.18)	26(21.49)	121(100)	
Higher education^	10(30.30)	7(21.21)	8(24.24)	3(9.09)	5(15.15)	33(100)	
Total	72(18.00)	67(16.75)	98(24.50)	77(19.25)	86(21.50)	400(100)	

*^Higher education: Diploma/Graduation or above; *p-value Chi square test.*

Negative' health perception was highest among those living in joint families. In contrast, the highest positive health perception (i.e., excellent, very good, and good) was observed among elderly individuals living in nuclear families (72.51%). Negative perceived health status was highest among illiterates (44.02%). A positive health perception increased with higher levels of education. The distribution of perceived health was nearly similar between financially dependent and independent individuals. Interestingly, Negative perceptions of health were more prevalent among those in the 'upper class' socioeconomic status (47.22%). (Table 2)

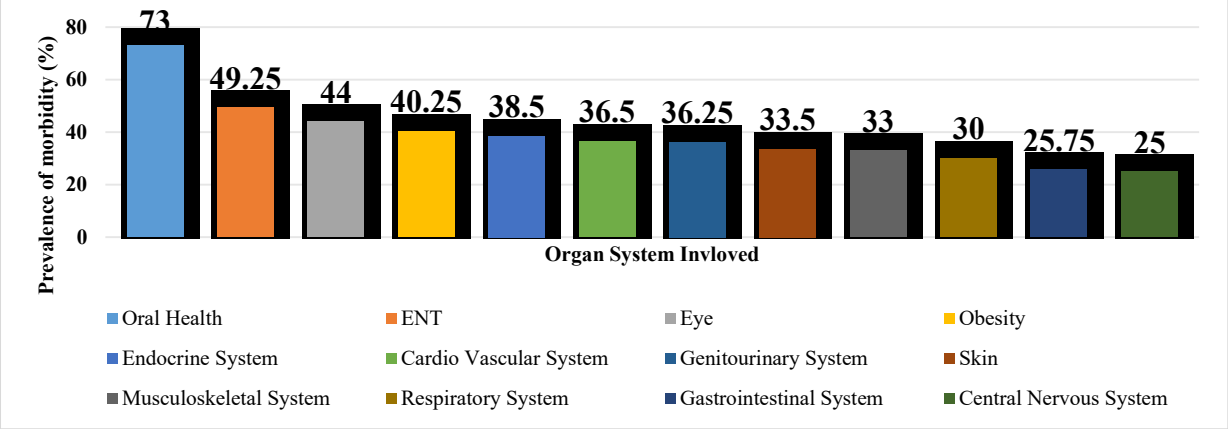
Table 2: Perceived health status among study group on basis of socio-economic characteristics: (N=400)

Variables	Excellent N (%)	Very Good N (%)	Good N (%)	Bad N (%)	Very Bad N (%)	Total N (%)	P-value*
Marital Status							
Married	46(18.62)	46(18.62)	58(23.48)	42(17.00)	55(22.27)	247(100)	0.457
Others#	26(16.99)	21(13.73)	40(26.14)	35(22.88)	31(20.26)	153(100)	
#Others: Widow/Widower/Separated/Divorced/Unmarried							
Type of family							
Nuclear	16(20.00)	16(20.00)	26(32.50)	8(10.00)	14(17.50)	80(100)	0.331
Joint	28(16.77)	27(16.17)	35(20.96)	35(20.96)	42(25.15)	167(100)	
Three generation family	19(18.81)	18(17.82)	21(20.79)	21(20.79)	22(21.78)	101(100)	
Alone	9(17.31)	6(11.54)	16(30.77)	13(25.00)	8(15.38)	52(100)	
Financial Status							
Independent	33(20.50)	25(15.53)	37(22.98)	28(17.39)	38(23.60)	161(100)	0.650
Dependent	39(16.32)	42(17.57)	61(25.52)	49(20.50)	48(20.08)	239(100)	
Socioeconomic Status							
Lower	9(18.00)	6(12.00)	18(36.00)	9(18.00)	8(16.00)	50(100)	0.756
Lower Middle	22(20.95)	14(13.33)	25(23.81)	19(18.10)	25(23.81)	105(100)	
Middle	25(18.52)	24(17.78)	31(22.96)	27(20.00)	28(20.74)	135(100)	
Upper Middle	12(16.22)	13(17.57)	19(25.68)	14(18.92)	16(21.62)	74(100)	
Upper	4(11.11)	10(27.78)	5(13.89)	8(22.22)	9(25.00)	36(100)	
Total	72(18.00)	67(16.75)	98(24.50)	77(19.25)	86(21.50)	400(100)	

**p-value Chi square test.*

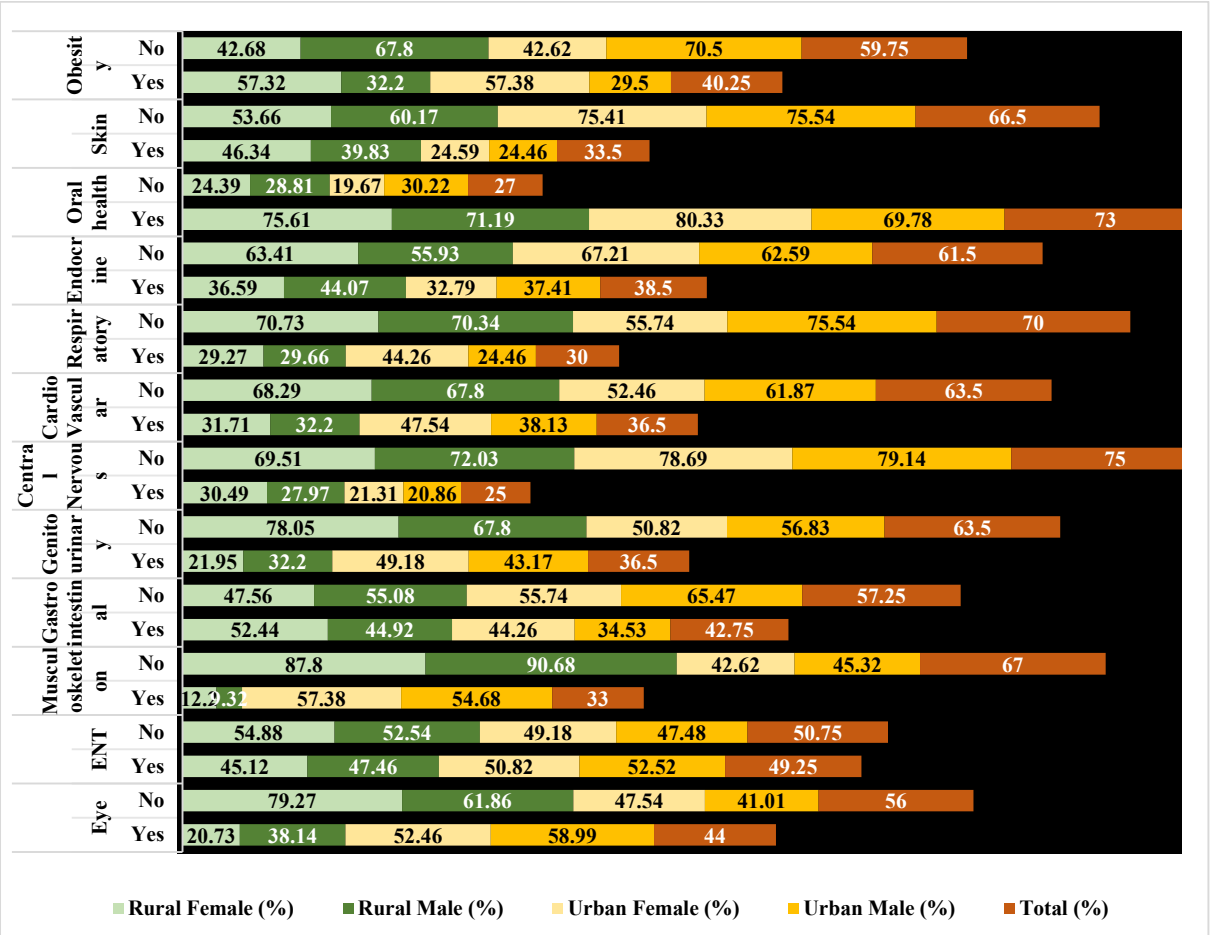
Figure 1: Oral health issues had the highest prevalence (73.00%), followed by ENT disorders (49.25%) and eye-related problems (44%). Central nervous system problems were the least prevalent (25%).

Figure 1 Health related Morbidity (%) among study participant: (N=400)



Morbidities related to oral health were more prevalent in overall (73%) which was slightly more in urban. In contrast, skin diseases were more prevalent in rural area. Same number of cases reported in both areas (~57%) related to obesity, especially among females. Morbidity related to eye, ENT, and musculoskeletal issues was more dominant among urban populations, especially in females. In contrast, gastrointestinal issues were more common among the rural population, with females (52.44%) being more affected than males. Higher prevalence of genitourinary, cardiovascular, and respiratory disorders in the urban population, particularly among females. In rural, central nervous system disorders were higher and more prevalent among females (30.49%).

Figure 2 Health related Morbidity (%) on basis of Gender & Residence: (N=400)



Maximum 31.75% of elderly contacted government facilities during illness. Urban elderly used government health facilities more than rural elderly, with the highest usage among urban males. Non-utilization of facilities (29.50%), the maximum were rural males (36.44%). (Table 3)

Table 3: Study population first contacted to health facilitates during illness (N=400)

Agency contacted first during illness	Rural (N=200)		Urban (N=200)		Total
	Female N (%)	Male N (%)	Female N (%)	Male N (%)	N (%)
Government facilities	25 (30.49)	33 (27.97)	26 (42.62)	43 (30.94)	127 (31.75)
Private practitioner	21 (25.61)	23 (19.49)	10 (16.39)	29 (20.86)	83 (20.75)
Others	9 (10.98)	19 (16.10)	14 (22.95)	30 (21.58)	72 (18.00)
Not utilized	27 (32.93)	43 (36.44)	11 (18.03)	37 (26.62)	118 (29.50)
Total	82 (100)	118 (100)	61 (100)	139 (100)	400 (100)

Reasons for non-utilization of health services in rural area were affordability (highest at 38.98%), particularly notable among urban females (45.45%). Distance to health services was more among urban males (32.43%). Aging-related acceptance of illness as normal was highest among rural males (34.88%). (Table 4)

Table 4: Study population according to Reasons for non-utilization of health facilities: (N=118)

Reasons for non-utilization	Rural (N=70)		Urban (N=48)		Total
	Female N (%)	Male N (%)	Female N (%)	Male N (%)	N (%)
Disease is normal part of aging	7 -25.93	15 (34.88)	2 -18.18	5 -13.51	29 -24.58
Health services too far	7 -25.93	10 (23.26)	2 -18.18	12 -32.43	31 -26.27
Not affordable	12 (44.44)	17 (39.53)	5 -45.45	12 -32.43	46 -38.98
No person to accompany	1 -3.7	1 -2.33	2 -18.18	8 -21.62	12 -10.17
Total	27 -100	43 -100	11 -100	37 -100	118 -100

DISCUSSION

Morbidity Pattern: In this study, a significant portion of the population holds mixed views on their health, with 59.25% perceiving it positively and 40.75% negatively. Comparatively, Sadeghipour Rousari M et. al.(8,9) reported a higher percentage of participants rating their health as excellent or very good (72.91%) and a lower percentage considering it bad (5.00%). Meanwhile, Narayanasamy NS et. al.(10) highlighted that 26% of participants self-rated their health as poor, with poorer health ratings. The discrepancies between these studies and our findings may reflect differences in demographics, health conditions, and cultural attitudes towards health. The higher negative health perception in our study could indicate underlying issues such as access to healthcare, socioeconomic factors, or general health status that warrant further investigation.

This study found that Negative health perceptions increases with age, peaking at 45.24% among those aged 80 and above. Rural elderly reported a higher level of 'Bad' and 'Very Bad' health (45%) compared to urban elderly, with a statistically significant difference (p-value = 0.005). Those in the 'others' category (widowed, separated, unmarried, or divorced) and illiterates (44.02%) also reported worst health. Positive health perceptions improved with higher education levels. Comparatively, Verma A et. al.; (11), reported similar trends. Older adults living alone have poorer self-rated health (73%) compared to those living with spouses (63%). The study showed that older adults over 70 years have poor self-assessed health (73%). Urban older adults reported better health (36% good SRH) than rural ones. Illiterates also exhibited poorer health perceptions (69% poor SRH). Furthermore, those in poor households had worst health (68% poor SRH). Both studies highlighted the influence of living arrangements, education, and socioeconomic status on health perceptions. Higher education correlates with positive health perceptions, while rural residence and lack of education were associated with poorer health perceptions.

This study revealed significant differences in morbidity patterns between urban and rural elderly population. Oral health issues were most prevalent (73%), with a slightly higher in urban areas.

Conversely, skin diseases were more common in rural areas. Both urban and rural population reported similar pattern of obesity (~57%), particularly affecting females. Urban areas exhibited higher cases of eye, ENT, and musculoskeletal issues, with females being more affected. In contrast, gastrointestinal issues were more prevalent in rural areas & females (52.44%) were more affected than males. Additionally, urban population showed a higher prevalence of genitourinary, cardiovascular, and respiratory disorders, especially among females. Rural areas report higher cases of central nervous system disorders, notably affecting females (30.49%). These findings align with Soren SK et. al.; (8), which identified musculoskeletal disease and gastrointestinal issues as significant morbidities, with an average of 2.25 morbidities per participant., reported higher rates of hypertension, heart diseases, and respiratory disorders in rural areas, while urban areas had a higher prevalence of diabetes mellitus and musculoskeletal problems. (12,13) highlighted increased rates of chronic conditions in individuals aged 70 and above, including hypertension and arthritis. Jadav P. and Bavarva N. (14), found a high prevalence of musculoskeletal issues and obesity, with diabetes and hypertension affecting substantial portions of the population. Barua K et. al.; (15), noted a higher prevalence of arthritis in women and greater overall morbidity in older males. Mohd. Maroof et. al.; (16), observed that senior women experienced more cataracts, depression, and motor impairments, while hearing issues and refractive errors were less gender-specific. Overall, these studies highlighted the need of targeted healthcare interventions addressing the specific morbidity patterns observed in urban and rural elderly population. These interventions should consider gender differences and the variations in prevalence of conditions across different settings.

Health seeking behaviour: In our study, 31.75% of individuals contacted government facilities first during illness. This trend was more pronounced among urban females (42.62%) compared to urban males (30.94%), while in rural areas, 30.49% of females and 27.97% of males utilized government facilities. Rural females (25.61%) were more likely than rural males (19.49%) to contact private practitioners. In urban areas, a higher proportion of both females (22.95%) and males (21.58%) contacted other agencies. Notably, a significant proportion of rural residents, both females (32.93%) and males (36.44%), did not utilize any agency, compared to their urban counterparts.

Shivani Singh et. al.; (17), found that more than two-thirds (69%) of the elderly consulted a registered medical practitioner, with 58% visiting private facilities, and allopathy was the predominant system of medicine used by 86% of survey participants. Reddy PM et. al.; (18), reported that 60.5% of subjects sought care from skilled medical practitioners during illness. Sarkar A et. al.: (19), indicated that 84.81% of participants sought care at the UHTC (Urban Health and Training Centre), while 24.81% utilized government hospitals.

Our findings highlighted a higher preference for government facilities among urban females, contrasting with Shivani Singh et. al.; (17), observation of a majority consulting private practitioners. This discrepancy could be attributed to regional variations in the availability and perceived quality of healthcare services. Urban females prefer government facilities due to better access and affordability compared to rural areas.

The higher proportion of rural residents not utilizing any agency could be linked to limited healthcare access, financial constraints, or lack of awareness about available services. This is consistent with Reddy PM et. al.; (18), findings, where a significant portion sought care from skilled practitioners, indicating a preference for perceived quality care when available.

Rural women may seek care from private practitioners more often than men. This contrasts with the findings of Sarkar A et al. (19), which indicate that most individuals accessed urban health centres. This suggests that urban residents may have greater trust in institutional healthcare facilities.

Our study identified several reasons for the non-utilization of health services, with affordability being the highest (38.98%), particularly among rural females (44.44%). Distance to health services was another significant concern (26.27%), more pronounced among urban males (32.43%). Additionally, many elderlies accepted illness as a normal part of aging (24.58%), especially among rural males (34.88%). Barua K et. al.; (15), found that a significant portion of respondents did not seek external care due to financial constraints (81.2%) and the believed that their conditions were age-related (62.5%). Naushad MD et. al.; (20), also highlighted the absence of caregivers and the distance to health services as major impediments, with half of their respondents citing the former and 30% mentioning the latter.

Our study emphasized on affordability, especially among rural females, aligns with Barua K et. al.; (15), findings, suggesting that financial barriers remain a pervasive issue. The concern about distance to health services, more pronounced in urban males in our study, indicated that even in

urban areas, transportation challenges persist, which is consistent with findings of Naushad MD et. al.; (20), on transportation issues. The acceptance of illness as a normal part of aging, particularly among rural males, mirrors the observations by Barua K et. al.; (15), highlighting a cultural dimension where elderly individuals might downplay their health issues due to a resigned attitude towards aging.

CONCLUSION

The majority of the elderly population was in the 60–69-year age group (54.50%) and were predominantly males (64.25%). The mean age of the elderly was 69.82 years, with a standard deviation of 7.02 years. It was observed that 69.50% elderly were presently in marital relationship & 13% elderly were living alone which was higher in rural area. Most of the elderly (41.75%) belonged to joint families, & family decisions primarily made by their children (41.50%). More than half (60%) of the elderly were financially dependent. Majority of the elderly were in the 'Middle' socioeconomic class (33.75%) & illiterate. (46%)

Nearly 40% of the elderly perceived their health as 'Bad' or 'Very Bad' as Negative health perceptions which was increasing with increasing age. Negative perceived health was higher among rural elderly (45%) compared to urban elderly, and this difference was statistically significant. Elderly who were widowed, separated, unmarried, or divorced had higher perceptions of their health as negative'. Higher education correlated with better health perceptions, whereas the 'Upper' socioeconomic class reported worse health. 'Negative health perception was highest among those elderly living in joint families. In contrast, the highest positive health perception (i.e., excellent, very good, and good) was observed among elderly living in nuclear families (72.51%).

Oral health issues were the most prevalent among the elderly (73%), which was slightly higher in urban areas, while skin diseases were more prevalent in rural areas. Both urban and rural population reported similar obesity pattern. Urban population, especially females, experienced higher morbidity related to eye, ENT, musculoskeletal, genitourinary, cardiovascular and respiratory system. In rural population had higher prevalence of gastrointestinal and central nervous system disorders, particularly in females.

Majority of elderly contacted government facilities during illness (31.75%), which was slightly more in urban elderly, preferably among males. Elderly who did not utilized facilities during illness was 29.50%, which was highest among rural males (36.44%). The main reasons for non-utilization of health services was affordability, particularly notable among urban females. While distance to health services was reason among urban males. Aging-related acceptance of illness as normal was highest among rural males.

RECOMMENDATION

To improve the health and well-being of the elderly, it is crucial to raise awareness about common health issues through information and education campaigns to ensure early detection and timely intervention. Promoting family-centred interventions, supporting community-based support groups and counselling services can help address both physical and psychological needs. Ensuring that primary care is accessible, affordable, and of high quality, with strong support from secondary and tertiary healthcare systems, is essential. Additionally, increasing engagement from NGOs in geriatric welfare and conducting further research into the medical and psycho-social challenges faced by the elderly will contribute to better health outcomes.

LIMITATION OF THE STUDY

Assessment of morbidity by affecting organ system on basis of self-reporting supplemented by history, relevant clinical examinations (digital BP instrument (AGARO)/ Measuring tape (Metallic)/ Micro-tone Stethoscope/ White LED Torch/ tuning fork / hammer), scrutiny of relevant medical document such as prescription of registered medical practitioner and investigation reports. Acute minor health conditions were not included in study at time of interview.

RELEVANCE OF THE STUDY

Since no similar study has been conducted in Banda district, Uttar Pradesh, this research identifies the key factors influencing the health of the elderly in this region. Understanding their health and health care seeking behaviour is essential for addressing their specific needs, improving their quality of life, and guiding policies to support aging populations. It also helps in reducing healthcare costs through preventive measures and ensuring that older adults receive adequate care and services. Ultimately, this study contributes to creating an age-friendly environment and promoting healthy aging, benefiting both the elderly and society.

AUTHORS CONTRIBUTION

All authors have contributed equally.

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Nil

Conflict of Interest

There are no conflicts of interest.

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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.

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