

# HEALTH PROBLEMS AMONG GERIATRIC POPULATION OF KHYBER PAKHTUNKHWA, PAKISTAN- A DESCRIPTIVE STUDY

Mohammad Khalid Khan<sup>1</sup>, Muhammad Ishtiaq<sup>2</sup>, Muhammad Jibrán Khan<sup>2</sup>, Mohammad Munib<sup>3</sup>, Naeem Ullah<sup>3</sup>, Adeela Mustafa<sup>4</sup>, Jaweria Ahmad Khattak<sup>2</sup>

<sup>1</sup>Department of Community Medicine, Gajju Khan Medical College, Swabi, Khyber Pakhtunkhwa - Pakistan

<sup>2</sup>Department of Community Medicine, Khyber Medical University – Institute of Medical Sciences, Kohat - Pakistan

<sup>3</sup>Department of Community Medicine, Saidu Medical College, Saidu Sharif, Swat - Pakistan

<sup>4</sup>Department of Community Medicine, Khyber Medical College, Peshawar - Pakistan

## ABSTRACT

**Objective:** Globally, the number of the geriatric population is continuously increasing, and they have many communicable and non-communicable diseases. Geriatric problems strongly correlate with social, economic, behavioral, physiological, nutritional, and environmental factors. This study aimed to assess the burden of different health problems among the geriatric population.

**Material and Methods:** After obtaining ethical approval, a descriptive cross-sectional study was conducted among 293 geriatric individuals from January to May 2024 in Nowshera, Kohat, and Swat districts of Khyber Pakhtunkhwa province of Pakistan. A structured questionnaire was used to collect relevant information from respondents, including both quantitative and qualitative variables. SPSS software version 26.0 was used for data analysis, and the results were presented in a tabulated form.

**Results:** In our study, 47.10% had an age of more than 70 years; 71.67% were tobacco smokers; 72.70% were either underweight or overweight/obese; 89.42% were married; 26.28% had a history of injury/accident, and only 31.06% were physically active. Moreover, health problems were identified in different organ systems i.e., bones/joints (31.06%), respiratory (21.86%), gastrointestinal (36.52%), nervous system (40.27%), nutrition (83.96%), ears (10.58%), eyes (31.40%), urinary tract (16.72%); and non-communicable diseases like diabetes mellitus (7.85%), thyroid (4.10%) and malignancy (10.58%).

**Conclusion:** The geriatric population showed problems in almost every body system. Moreover, more than 3/4th of the geriatric population had signs and symptoms of different medical problems/conditions; thus, comprehensive geriatric assessment along with effective screening and diagnostic measures is needed to estimate the true burden among the geriatric population.

**Key words:** Geriatric, Health Problems, Overweight, Diabetes Mellitus, Injury, Nutrition

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## INTRODUCTION

According to global statistics, one in every sixth individual will be aged 60 years or over, and thus the world's population will nearly double from 1 billion in 2020 to 2.1 billion in 2050. <sup>1, 2</sup> Additionally, the WHO estimated that people more than 80 years old will reach 400 million in

2040. <sup>3, 4</sup>

Worldwide, problems involving bones/joints are common among old people, and are associated with high morbidity & disability and thus pose a public health concern. <sup>5, 6</sup> Many international studies have revealed that aging eventually leads to various chronic diseases, frailty, or disability. <sup>7, 8</sup> Accidental falls and injuries are increasingly important public health challenges worldwide, and frailty, multimorbidity, and malnutrition are the main determinants. Falls are the sixth leading cause of death among people over 65 years old. <sup>9, 10</sup>

Globally, depression has been a major mental health issue among the geriatric population, and about 10 % to 20 % of older people are estimated to have mental

### Correspondence

**Dr. Adeela Mustafa**

Associate Professor

Department of Community Medicine, Khyber Medical College, Peshawar, Khyber Pakhtunkhwa, Pakistan

**Cell:** +92-345-2909019

**Email:** adeelaamir17@gmail.com

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problems.<sup>11-13</sup> Mental problems showed a strong association with sleep. Furthermore, disturbed sleep eventually contributes to so many non-communicable diseases.<sup>14, 15</sup>

Worldwide, aging populations have risen markedly during the past several decades. Moreover, older persons are more prone to multiple chronic diseases, i.e., cardiovascular disease, diabetes mellitus, hypertension, pulmonary disease, kidney disease, and cancer.<sup>8, 16</sup> Additionally, diabetes mellitus prevalence among individuals aged 70 and 80 years old is 20% and 40%, respectively.<sup>17</sup> Furthermore, old age accidents/injuries are increasing continuously, and advanced age decreases physical capabilities and increases the risk of falls/accidents.<sup>18, 19</sup>

Nearly 350 million people have hearing and visual impairment worldwide.<sup>20, 21</sup> Moreover, malnutrition and undernutrition are also common among geriatric individuals.<sup>18</sup> Old people are more vulnerable to communicable and non-communicable diseases.<sup>22, 23</sup> Oral health problems among geriatric individuals have emerged as a significant concern, and thus tooth loss and dental caries lead to difficulty during the chewing process and resulting in reduced oral intake and malnutrition.<sup>24</sup>

Pakistan, being a developing country, with high fertility, morbidity & mortality rates in every age group, and thus, due to scientific advancements and innovative preventive & control strategies, the proportion of old age people is continuously increasing. Therefore, this cross-sectional study was conducted to estimate the prevalence of various systemic problems among the elderly and to suggest measures and strategies for a comprehensive geriatric assessment with the aim of reducing such conditions and the economic burden among the elderly.

## MATERIALS AND METHODS

After taking ethical approval from the Ethical Review Committee of Gajju Khan Medical College, Swabi, a descriptive cross-sectional study was conducted in Nowshera, Kohat & Swat districts of Khyber Pakhtunkhwa, Pakistan, from January to May 2024. Based on a 25% prevalence of health problems, 5% absolute precision, and a 95% confidence interval, a sample size of 293 was chosen through a convenience sampling technique from the general communities. A self-structured questionnaire was used to collect relevant information from the respondents, having both quantitative and qualitative independent variables. Mean  $\pm$  SD was calculated for quantitative variables, and frequency & percentages were calculated

for qualitative variables. SPSS software version 26.0 was used for data analysis. Results were presented in the form of tables.

## RESULTS

In our study, regarding the demographics of the participants, 52.90% were between 65 and 70 years old, while 47.10% were over 70. A majority, 71.67%, were tobacco smokers, whereas 22.87% had never smoked. About 31.06% were underweight, 21.50% overweight, and 20.14% obese, with 27.30% having a normal BMI. Most participants, 89.42%, were married, while 10.58% were unmarried. Around 26.28% experienced a history of injury or accident, yet only 31.06% engaged in physical activity, leaving 68.94% inactive or not participating in sports, as shown in Table No. 1. Concerning geriatric health issues, the following conditions were identified: approximately 31.06% had bone or joint problems; 21.86% respiratory issues; 36.52% gastrointestinal problems; and 40.27% had central nervous system or psychological issues. Additionally, 83.96% faced nutrition-related problems; 10.585% had ear, nose, and throat issues; 31.40% experienced eye problems; and 16.72% had urinary system problems. The study also assessed common non-communicable diseases: 7.85% had diabetes; 10.58% had mellitus; 10.58% had malignancies; and only 4.10% suffered from thyroid problems, as shown in Table No. 2.

## DISCUSSIONS

In our study, 13.99% had an age  $\geq$  75 years, which was supported by the study of Wei Li et al. (2023), showing a 15% prevalence.<sup>14</sup> Moreover, our study showed that 82.59% were male, whereas international studies revealed 34.91% and 64% of male prevalence, respectively.<sup>15, 24</sup> In our study, 71.67% had a history of tobacco smoking; whereas 14.7% and 54.9% prevalence was reported by international studies, respectively.<sup>13, 20</sup> Moreover, in our study, 27.30% had a normal body mass index, whereas international studies showed 54.8% and 12.42% of normal body mass index, respectively.<sup>8, 13</sup> Moreover, in our study, 20.14% were obese, whereas in the study of Al-Azayzih et al. (2023, there was a 51.53% prevalence of obesity.<sup>8</sup>

In a study conducted in China, had 68.1% falls and/or injuries, while our results showed 26.28%.<sup>7, 10</sup> Moreover, in our study, participants had respiratory and eye problems, which were supported and confirmed by international studies<sup>8, 12</sup>, and revealed a higher prevalence

**Table No 1: Frequency of Demographic & Socio-economic Determinants among Geriatric Individuals from selected Districts, of Khyber Pakhtunkhwa, Pakistan**

Variables	Frequency	Percentage
<b>Age</b>		
65-70	155	52.90
70-75	97	33.11
> 75	41	13.99
<b>Gender</b>		
Male	242	82.59
Female	51	17.41
<b>Marital Status</b>		
Married	262	89.42
Unmarried	31	10.58
<b>Have children</b>		
Yes	238	81.23
No	55	18.77
<b>Smoking History</b>		
Smokers	210	71.67
No smokers	67	22.87
No Idea	16	5.46
<b>Previous Employment Status</b>		
Govt	75	25.60
Private	125	42.66
No	93	31.74
<b>Body Mass Index</b>		
< 19 (Underweight)	91	31.06
19-24 (Normal)	80	27.30
25-29 (Over Weight)	63	21.50
> 30 (Obese)	59	20.14
<b>History of Home Injury / Accidents</b>		
Yes	77	26.28
No	216	73.72
<b>Physical Exercise (Walk/Stroll)</b>		
Yes	91	31.06
No	202	68.94

of eye problems as compared to previous international studies.

In our study, 17.4% had hypertension; whereas in studies of Alonso Salinas et al. (2024), Al-Azayzih et al. (2023; & Wei Li et al. (2023) had 11% heart problems, 3.26% stroke, and 26.7% hypertension problems, respectively. <sup>8, 14, 23</sup> Moreover, in the study of Alam et al. (2023) & Hossain et al. (2024), 57.9% & 52.5% depression, whereas our study showed 12.63%. <sup>11, 13</sup> Thus, our study showed similar findings and supported the international study of Alonso Salinas et al. (2024) & Wei Li et al. (2023). <sup>14, 23</sup>

**Table No 2: Showing Frequency & Percentages of Different health problems among 293 Geriatric Individuals from selected Districts, of Khyber Pakhtunkhwa, Pakistan**

S. No	Health Problems	Presenting Complaints	f	%
1	Respiratory	Cough/ Dyspnea/ Shortness of Breath	64	21.84
2	Cardio-Vascular System	Heart Diseases	11	3.75
		Stroke	6	2.05
		Hypertension	51	17.41
3	Central Nervous System	Depression/ Stress/ Anxiety	37	12.63
		Disturbed Sleep	52	17.75
		Memory Loss	29	9.90
4	Gastro-Intestinal Tract	Gastric Discomfort	68	23.21
		Constipation/ Diarrhea	39	13.31
5	Nutritional	Anorexia	33	11.26
		Over-Nutrition	122	41.64
		Under-Nutrition	91	31.06
6	Ear, Nose & Throat	Ear Discharge, Pain, Tinnitus, Hearing Loss	31	10.58
		Nose Pain, Rhinitis	25	8.53
7	Eye Problems	Vision/ Glaucoma/ Cataract	92	31.40
9	Kidney, Ureter, Bladder	Dysuria & Pyuria	31	10.58
		Bladder/Renal/ Kidney stones	18	6.14
10	Bones, Joints & Muscles	Bodyache/ Backache	61	20.82
		Knee/ Lower Limbs Pain	30	10.24
11	Miscellaneous Problems	Diabetes Mellitus	23	7.85
		Malignancy	31	10.58
		Thyroid Gland	12	4.10
		Hepatitis	8	2.73
		Dental Problems	63	21.50
		Weight Loss	33	11.26

According to the ear, nose, and throat problems, our study findings were more than Pramotesiri et al., 2024; & less as compared to study of Hajek et al., 2024. <sup>1, 21</sup> Moreover, in the study of Gagliano et al. (2023), 46.09% had nutritional problems, whereas our results showed 41.64%. <sup>9</sup> In international studies of Adler et al. (2024) & Geng et al. (2023), 50.6% & 18% bones/joint problems, whereas our results showed 31.06%. <sup>5, 12</sup> In our study, diabetes mellitus, malignancy; & dental problems showed high prevalence, as was supported and revealed by many international studies. <sup>1, 8, 17</sup>

## CONCLUSIONS

The geriatric population of the selected districts showed problems in almost every organ/system of the body. Moreover, more than half of the studied geriatric population had signs & symptoms of various medical problems/conditions; therefore, comprehensive geriatric assessment along with effective screening and diagnostic measures, to estimate the true burden among the geriatric population.

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#### Authors Contribution:

Following authors have made substantial contributions to the manuscript as under

Authors	Conceived & designed the analysis	Collected the data	Contributed data or analysis tools	Performed the analysis	Wrote the paper	Other contribution
Khan MK	✓	✓	✗	✗	✓	✗
Ishtiaq M	✓	✓	✗	✓	✗	✗
Khan MJ	✗	✓	✗	✗	✓	✗
Munib M	✓	✓	✗	✓	✗	✗
Ullah N	✗	✓	✗	✓	✓	✗
Mustafa A	✓	✗	✗	✗	✓	✗
Khattak JA.	✗	✓	✗	✓	✓	✗

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

#### Ethical Approval:

This Manuscript was approved by the Ethical Review Board of Gajju Khan Medical College, Swabi. Vide No. 54-57/ERC/2024.

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