

Morbidity Patterns and Health Needs of the Geriatric patients in a Tertiary Care Hospital

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ABSTRACT

Background: The aged population of the world is increasing. Old age is associated with increased risk of morbidity and mortality. This puts burden on health services, both financially and in terms of workload.

Aim: To determine the morbidity patterns and health needs of this age group.

Methods: A descriptive cross-sectional study was conducted among the geriatric patients presenting in the outdoor department of services hospital Lahore. The sample size was 220, calculated using the WHO statistical software S size. Nonprobability convenient sampling technique was used. The confidence interval was 95% and relative margin of error was 10%. Chi-square test was used to check the statistical significance.

Results: Out of 220 study subjects, 13 had only 1 morbid condition and 137 were suffering from more than 3 morbidities. Hypertension was the most prevalent morbidity (65.9%), followed by eye cataract (61.18%). Other morbid conditions in descending order were diabetes mellitus (47.27%), osteoarthritis (43.63%), coronary heart disease (38.18%), obesity (35.45%), respiratory diseases (30.90%), hearing impairment (25%). Significant association of morbidities with body mass index was observed. Almost 37.7% of respondents reported feeling of loneliness. Most of the geriatric patients were involved in religious activities (88.2%). Spectacles (55%) were the most frequently used supporting aids followed by walking sticks (26.4%).

Conclusion: A high proportion of geriatric patients have more than 3 morbidities with hypertension being the most common. Body mass index and smoking were significant risk factors. Geriatrics showed prevalent psychological problems.

Keywords: Geriatrics, Morbidity, Pattern, Health needs.

INTRODUCTION

Geriatrics refers to medical care for older adults¹, a person who is over 60 years of age as defined by the United Nations². In 2019, the number of people aged 60 years and older was 1 billion globally. This number will increase to 1.4 billion by 2030 and 2.1 billion by 2050³.

Population ageing is driven by both declining fertility and increasing longevity⁴. According to the first census of Pakistan 1961, proportion of population aged 60+ was 2.92% of the total. By 1972 it raised to 4.57%, by 1981 it was 5.88% of the total, by 1998 it was over seven million⁵ and according to 2017 census it was about 12.1 million making about 5.78% of the total population⁶. According to the 1998 census of Pakistan, people aged 65 and above constitute about 3.5% of total population. Regional proportion of aged people was as follows: Punjab 4.02%, Sindh 2.77%, Baluchistan 2.52%, NWFP 3.01%, Islamabad 2.73%, and FATA 1.80%⁷. In 2014, population of elderly aged 60 or more in Lahore was almost half a million out of a total population of 9.4 million. It was almost 5.2% of the total population⁸.

Ageing is the single most important risk factor in the etiology of disease causation⁹. Many older adults live with multiple chronic conditions¹⁰. There is a progressive decline in the normal functioning of the body; which leads to deteriorating conditions and loss of control over body functions¹¹. Old age has serious socio-economic implications for the societies. It withdraws us from active employment.⁽⁵⁾ Population aging can cause a major impact on the organization and delivery of health care¹². The total dependency ratio is projected to increase gradually over the coming decades together with the growing proportion of older persons. In 2050, the global total dependency ratio is projected to rise to 79 dependents per 100 working-age persons⁴. A study setting aimed at use of health services by geriatrics showed that 72.4% of participants visited private hospitals for their healthcare needs, representing the lack of government established healthcare services for elderly⁹.

The family system is breaking down into nuclear units these days, having deleterious effects on the health and emotional needs of elderly¹³. Also, termination from the status as head of family, to

a passive participant in decision making due to loss of income leads to a lower self-esteem¹⁴. The elderly people are matured and experienced persons of any community. They are a great asset for any country and can take part in the progress of a nation by all means¹⁵. While knowledge on aspects of issues related to ageing population is severely lacking and there is a need to highlight the medical and socio-economic problems of the elderly¹⁶.

We conducted a study to assess health problems of geriatric patients presenting in the outdoor department of services hospital Lahore, so that we can find out the morbidity patterns and health needs of the geriatrics.

MATERIAL AND METHODS

After permission from Hospital Ethical Review Board, a descriptive cross-sectional study, using non probability convenient sampling technique was conducted among the geriatric patients presenting in medical and surgical outdoor departments of Services Hospital Lahore. Services Hospital is a tertiary care hospital consisting of 1196 beds located in 31 departments.

The study duration was 6 months starting from 19th January 2021 to 25th July 2021. In this study we assessed the morbidity patterns and health needs of the geriatric patients. All geriatric patients that were aged 60 years and above visiting the outdoor departments of services hospital were included. Patients presenting in the indoor department, critically ill patients and psychiatric patients were excluded from the study. Sample size was calculated by using the WHO S. size software using the formula of estimating a population proportion with specified relative precision. At confidence interval of 95% with anticipated population of 63.9%¹⁶ and relative error of 10%, the minimum sample size was 220. Non probability convenient sampling technique was used.

Data was collected using a structured questionnaire based on morbidity pattern and health needs. Informed consent from all the respondents and permission from ethical committee of Services Hospital Lahore was taken. Every subject was informed about the publication of their health profile afterwards. It had 5 sections. First section was about socio demographics, second section was about the morbidity profile, in the third section we assessed the use of supporting aids, fourth section was about their psychological assessment and in the fifth and final section, we

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inquired about the leisure time activities they were involved in. The questionnaires were filled by medical students after asking the questions directly to the patients present in outdoor department.

Data was analyzed using SPSS version 25. Quantitative variables were summarized in the form of mean and standard deviation. Qualitative variables were summarized in the form of frequency and percentages. Chi-square test was used to check the statistical significance and p-value ≤ 0.05 was taken as cut off value.

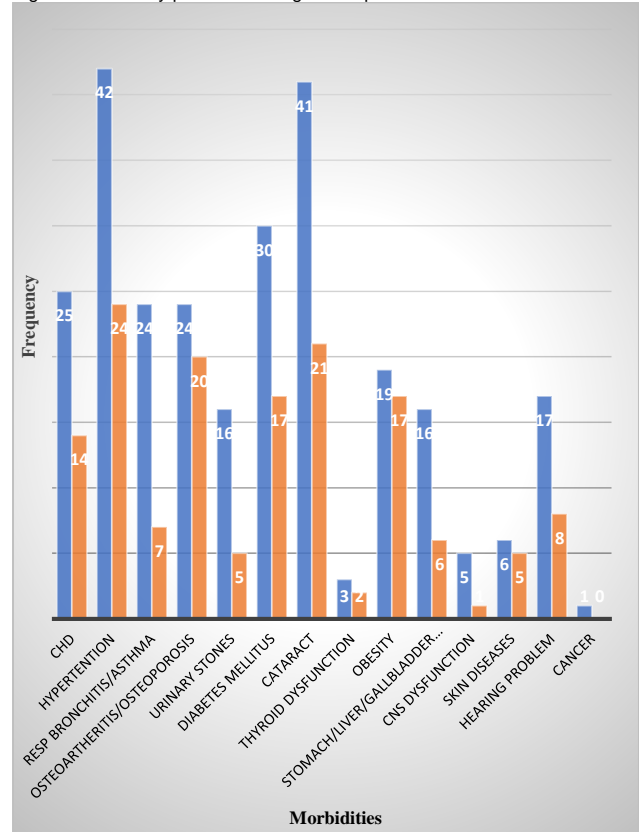
RESULTS

Out of the total 220 respondents 149(67.7%) were males and 71(32.3%) were females. 129(58.6%) of the respondents were 60-70 years of age, 64(29.1%) were 71-80 years old and 27(12.3%) were aged >80 years. Upon BMI assessment 3 were underweight (less than 18.5), 100 had normal BMI (18.5-24.9), 87 were overweight (25-29.9) while 34 of them were morbidly obese with BMI over 30. Among respondents 179 were currently married, 3 were unmarried, 8 were divorced while 30 were widowed. 87(39.5%) of them were smokers while 133(60.5%) were non-smokers.

Financial assessment data showed that 91 respondents earned less than 20000Rs. per month, 99 earned 20000-50000Rs., and 30 earned more than 50000Rs. per month. Data showed that 51 respondents were currently employed, 127 were unemployed and 42 were self-employed. Around 71 of them were independent, 37 partially dependent and 112 were totally dependent upon their families.

Hypertension was the most frequent (65.9%) morbid condition with (62.4%) in men and (73.2%) in women. It was followed by eye cataract (61.18%). Other morbid conditions in descending order were diabetes mellitus (47.27%), osteoarthritis/osteoporosis (43.63%), coronary heart disease (38.18%), obesity (35.45%), respiratory diseases (30.90%), hearing impairment (25%), liver gallbladder or stomach related conditions (22.27%), urinary stones (21.36%), skin (10.9%), central nervous system problems (5.9%), thyroid related problems (5.5%), cancer (0.45%). In psychological assessment, change in family attitude was observed in 84(38.2%) while loss of income or occupation was seen in 49(22.3%). Most of the geriatric patients 126(57.3%) expected support from their family.

Figure 1: Morbidity patterns among the respondents.



The most common morbidity among men was hypertension 93(42%) followed by cataract 90(41%) and diabetes mellitus 66(30%). Most common morbidity among females was also hypertension 52(24%) followed by cataract 46(21%) and osteoarthritis 44(20%).

Table 1: Morbidity patterns and different age groups of the respondents

Morbidity	Males	Females	Total	60-70 years	71-80 years	>80 years
	149(n%)	71 (n%)	220(n%)	129(n%)	64 (n%)	27(n%)
Hypertension	93(62.4)	52(73.2)	145(65.9)	85(65.8)	44(68.75)	16(59.25)
Cataract	90(60.4)	46(64.78)	136(61.81)	67(51.93)	47(73.43)	22(81.48)
Diabetes mellitus	66(44.29)	38(53.5)	104(47.27)	60(46.51)	28(43.75)	16(59.25)
Osteoarthritis/osteoporosis	52(34.89)	44(61.9)	96(43.63)	54(41.86)	31(48.43)	11(40.71)
Coronary heart disease	54(36.24)	30(42.25)	84(38.18)	44(34.10)	23(35.93)	17(62.96)
Obesity	41(27.5)	37(52.11)	78(35.45)	51(39.53)	22(64.7)	5(18.51)
Respiratory bronchitis/Asthma	53(35.57)	15(21.12)	68(30.90)	37(28.68)	17(26.56)	14(51.85)
Hearing problem	37(24.8)	18(25.3)	55(25)	27(20.93)	20(31.25)	8(29.6)
Liver, gallbladder or stomach disease	36(24.16)	13(18.30)	49(22.27)	30(23.25)	10(15.6)	9(33.33)
Urinary stones	36(24.16)	11(15.5)	47(21.36)	27(20.93)	17(26.56)	5(18.51)
Skin disease	14(9.4)	10(14.08)	24(10.9)	14(10.8)	6(9.3)	4(14.18)
CNS disease	10(6.7)	3(4.2)	13(5.9)	7(5.4)	2(3.12)	4(14.18)
Thyroid dysfunction	7(4.7)	5(7)	12(5.5)	5(3.87)	5(7.81)	2(7.4)
Cancer	1(0.67)	0(0)	1(0.45)	0(0)	1(1.5)	0(0)

Hypertension 85(65.8%) and diabetes mellitus 60(46.5%) were the most frequently occurring morbidities in the age group 60-70 years. In age group greater than 80 years, Osteoarthritis 71(40.71%) was the common morbidity. The highest percentage of coronary heart disease was found in age group 60-70 year.

Out of 220 respondents, 1 (5.9%) had only 1 morbid condition, 27(12.27%) suffered from 2 morbidities, 43(19.54%) had 3 morbidities and 137(62.27%) were suffering from more than 3 morbid conditions. The frequency of more than 3 morbidities among different age groups was as follows: 60-70 year (56.58%),

71-80 year (68.75%), >80 year (74.07%). None of them were free of any morbid condition.

Table 2: Association between number of morbidities and BMI of respondents

BMIx	Number of morbidities				Total
	1	2	3	>3	
<18.5	0	1	0	2	3
18.5-24.9	5	17	25	53	100
25-29.9	8	7	18	50	83
≥ 30	0	2	0	32	34
Total	13	27	43	137	220

Chi-square test was applied which shows a significant difference between no of morbidities and BMI, $p=0.003$ and a significant difference between smoking and respiratory diseases (bronchitis/asthma), $p=0.000$

Table 3: Health needs of the respondents

Health needs	Frequency (n%)
Supporting Aids	
Spectacles	121(55%)
Walking sticks	58(26.4%)
Dentures	33(15%)
Blackbelts	35(15.9%)
Hearing Aids	40(18.2%)
Psychological Aspects	
Change in Family Attitude	84(38.2%)
Loss of income or occupation	49(22.3%)
Expect family support	126(57.3%)
Feeling of neglect	62(28.2%)
Feeling of loneliness	83(37.7%)
Leisure Time Activities	
Religious	194(88.2%)
Socializing	139(63.2%)
Watching TV	151(68.6%)
Reading	55(25%)
Child Care	134(60.9%)
Exercise	70(31.8%)
Domestic work	102(46.4%)
Addictions	52(23.6%)
Cooking	69(31.4%)
Sewing	63(28.6%)
Clubs	6(2.7%)
Music	64(29.1%)
Games	7(3.2%)
	1(0.5%)

Spectacles were the most frequent supporting aid used by the respondents (55%) followed by walking sticks (26.4%). About 38.2% of respondents observed Change in family attitude and about 57.3% expected support from their families. The notable leisure time activities involved religion 194(88.2%), television 151(68.6%), socializing 139(63.2%) and taking care of children 134(60.9%).

DISCUSSION

In the present study, we looked for the most common morbidities and health needs of the elderly people attending the outdoor departments of Services Hospital, Lahore. The data was collected from 220 patients aged 60 years or older. They were asked about the morbid conditions they were suffering from, their lifestyle either sedentary or active, about the use of supporting aids for the disabilities caused by ailments, about their leisure time activities and their psychological assessment was done.

In our findings the most common morbidity was hypertension 65.9% (62.4% in men and 73.2% in women). It is more frequent in 71-80 years age group. It's a single most common health risk for any age group, with time it can cause heart problems. It usually requires lifelong therapy and lifestyle modifications. Thus, measures for prevention will help more in the long run than treatment therapies. It is consistent with studies done by Jennifer *et al* (63.9%) in Tamil¹⁶ and Hazarika *et al* (63.63%) in Assam¹⁷. It was followed by cataract 61.18% (60.4% in men, 64.78% in women). The incidence increased with age 51.93% (60-70 age), 73.43% (71-80 age) and 81.48% (>80 age). This has negative impact on the quality of life, hampering the day today activities in old age. Prakash *et al* reported higher occurrence (70%) in Udaipur Rajasthan¹⁸ while it is reported less by Joshi *et al* in Northern India (38%)¹⁹.

Around 47.27% of the respondents were suffering from diabetes mellitus (60.4% in men and 64.78% in women). This high incidence may be due to poor nutrition and sedentary lifestyle. It has multitude of adverse effects upon ocular, peripheral vascular and neurological systems, can decrease the immunity and delays

wound healing. Considering all this, it would have a huge impact on the health of elderly if we can work on the risk factors and improve the adherence of general population to healthy life trends. Parveen *et al*, in a survey on diabetes in Hyderabad district of Sindh Pakistan, reported diabetes at 59% in male and 41% in females²⁰. The most common risk factor is obesity which was observed in about 35.45% of patients (27.5% in men, 52.11% in women). The obesity is more common in 71-80 age group (64.7%) and least common in >80 age group (18.51%). Its occurrence is almost twice in females than males. During a lifetime, a female undergoes extensive hormonal influences, bear children, breast feed them for several months, all of this can disrupt their eating habits and metabolic demands thus predisposing them to abrupt weight changes. This explains the increase incidence in females. This can prone them to a lot of health problems over time including type 2 diabetes mellitus, joint problems etc. A significant association was also observed between BMI and no of morbidities in our study. It supports the high risks of health concerns associated with obesity. It is reported lower (18.2%) by Syed Nabeel Zafar *et al* for a study in Karachi²¹. Obesity is one of the risk factors for osteoarthritis/osteoporosis which was observed among 43.63% of respondents (34.89% in men, 61.9% in women). Its occurrence in females is almost double than males. It's usually a major life concern later in life. It can be correlated with loss of protective effect of estrogen at menopause and with increased incidence of obesity in females. It is reported by Reshmi *et al* at 38% for arthritis²².

The frequency of respiratory disorders was around 30.90%. A significant association between respiratory disorders and smoking habits points out the single most important risk factor. Our study showed that the frequency of more than 3 morbidities increases with aging in successive age groups. It may be due to weakened immunity, increased risk of catching infections, falls and fractures and more dependency on others for day-to-day care.

Around 50.9% of the respondents were completely dependent upon someone else for their economic needs. This shows the high dependency ratio in our society as compared to the developed nations. It over burdens the young generations and have a great impact on a nation's economy as a whole. Fortunately, in our study 57.3% of respondents expected support from their family which is good sign. Upon psychological assessment 37.7% of respondents reported feeling of loneliness. Similarly in a previous study of Gujrat by Muhammad Shoaib *et al* 13.3% of respondents reported feeling of loneliness to great extent while 30.8% to some extent²³. This shows the unmet emotional needs of elderly. Human body functions as a unit, both a healthy mind and a healthy body are needed for its proper functioning. This area should be focused for their wellbeing. Social activities, strong bonding with their caretakers and support groups can play a major role in this regard.

Spectacles 121(55%) were the most frequently used supporting aids followed by walking sticks 58(26.4%). Most of the people had leisure time activities like watching television, socializing, reading newspaper, looking after the grandkids. Religion had a major impact in their lives. A finding consistent with a study done by Syed Nabeel Zafar *et al* in Karachi²¹.

CONCLUSION AND RECOMMENDATIONS

A high proportion of geriatric patients presenting in Services Hospital Lahore have more than 3 morbidities with hypertension being the most common. Among those increased body mass index and smoking were significant risk factors. Geriatrics experienced psychological problems. Most of them used supporting aids for their daily life chores. Majority of the respondents were totally dependent on their family members for their expenditure. Most of the respondents expected support from their family members. Religion has a strong impact in their lives.

There is an imminent need of health services to be free for geriatrics and establishment of more health units especially for

geriatrics in government hospitals. Support groups should be created for elderly. It would have a positive impact on their psychological behavior. Educational programs targeted on prevention and coping strategies for morbidities of geriatric patients are recommended. This will improve the overall quality of life of geriatric patients.

Conflict of interest: Nil

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