

## Common Geriatric Syndromes in Elderly Patients Attending Geriatric Clinic in Medical City

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### ABSTRACT:

#### BACKGROUND:

Elderly people develop different kinds of health problems which are known as geriatric syndromes that have more than one cause and involve many activities of the body. The common geriatric syndromes include urinary incontinence, falls, delirium, depression, dementia, sleep problems, osteoporosis, weight loss and constipation.

#### OBJECTIVE:

The objective of this study to estimate the prevalence of common geriatric syndromes in relation to gender and to interview the working state.

#### PATIENTS AND METHODS:

This study included 300 elderly patients with age range of 60 years -84years of both genders in a cross-sectional study from March - June 2019 who visited geriatric clinic in Baghdad Teaching Hospital / Medical City. Analytic study by SPSS was performed to assess the frequency of geriatric syndromes and working state. The p value < 0.05 was significant.

#### RESULTS:

This study showed 65% were males. The most common geriatric syndromes included: Sleep disturbance 50%, Urinary incontinence 48%, Osteoporosis 39% and fall 28%. Regarding working state 56% was retired, 34.6% were unemployed and only 9.4% were working. Osteoporosis (4.3%) and psychological problems (20.6%) were less in working older adults.

#### CONCLUSION:

The frequent geriatric syndromes are urinary incontinence, sleep disturbance, osteoporosis and falls. More than half of patients were retired and one- third were unemployed. Osteoporosis and psychological problems were decreased in working elderly patients.

**KEYWORDS:** Geriatric syndromes (GS), Urinary incontinence (UI), Sleep problems (SP), Bone mineral density (BMD).

### INTRODUCTION:

Elderly patient is an older person with impaired functional abilities and social changes. There is no set age. According to world health organization (WHO); most developed countries have accepted the chronological age of 65 years as a definition of elderly individuals. While the United Nations has agreed that a cut of 60+years denoted as old age. The ages of 60 and 65 years are often used equivalent to retirement ages<sup>(1-3)</sup>.

Geriatric syndromes are a group of symptoms or problems that are logically connected and associated with aging. They are multi-factorial and associated with morbidity and poor outcome such as falls, urinary incontinence, constipation, depression, delirium, dementia, spontaneous bone fracture and elderly abuse.

They are associated with loss of life expectancy<sup>(4,5)</sup>.

The criteria for defining geriatric syndromes include age related disorder with functional decline involving multiple systems with complex multi-factorial etiology and poor outcome but treatable. The common risk factors for these geriatric syndromes include age, cognitive decline, impaired function and mobility<sup>(4,6)</sup>.

Bladder control problems or urinary incontinence are more common in older people especially women. There are many causes for urinary incontinence including urinary tract infection, constipation, vaginal prolapse, enlarged prostate, diabetes, multiple sclerosis and Parkinson disease. Urinary incontinence can lead to falls and isolation<sup>(4)</sup>.

Falls are the leading cause for serious injuries and accidental death in older people.

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There are numerous risk factors for falling including safety hazards at home, medication side effects, abnormal gait, vision problems, dizziness, postural hypotension, arthritis, muscle weakness and malnutrition<sup>(6, 7)</sup>.

Osteoporosis is one notable intrinsic factor that leads elderly patients to fall. The main causes of falls in elderly are chronic health conditions (such as heart disease, dementia, hypotension), physical condition affect balance and poor eye sight or poor hearing<sup>(4, 7, 9)</sup>.

Dementia is a progressive disorder that affects the brain memory capacity and its overall functionality while Delirium or acute mental status is a medical emergency. Delirium is a state of sudden confusion often has multiple causes and these factors are treatable but may result in morbidity and mortality if left untreated<sup>(10)</sup>.

Osteoporosis or thinning bones is a condition that makes the bones of older adults more fragile and easy to break. Women aged 65 years or older, and men over age 70 years, should get a bone mass density 'BMD' test. Osteoporotic fractures and fragility fractures have been recognized as geriatric condition associated with various problems that compromise whole body and function<sup>(4, 9)</sup>.

Sleep problems, waking up frequently or difficulty falling asleep can affect quality of life and can contribute to falls, injuries and other health problems<sup>(11)</sup>.

Weight loss is very common problem in elderly. Common causes of weight loss are malignancy (19-36%), nonmalignant gastrointestinal disease (9-19%) and psychiatric conditions such depression and dementia (9-24%). Medication use and polypharmacy can interfere with taste and cause nausea. Social factors may contribute to unintentional weight loss while the frequency of unknown causes is about (6-28%). Overall nonmalignant diseases are more common than malignancy. Weight loss can lead to weakness,

falls and bone disorder<sup>(4,6, and 8)</sup>.

Chronic constipation in the elderly can be attributed to several factors including: poor diet, lack of adequate fluid, lack of exercise, drugs and poor bowel habits. Chronic constipation has been associated with considerable impairment in quality of life and can result in large individual health care costs and represents a burden to health care delivery system<sup>(12)</sup>.

### PATIENTS AND METHODS:

A cross-sectional study included 300 elderly patients attending geriatric clinic in Baghdad Teaching Hospital from 1<sup>st</sup> March- 1<sup>st</sup> June 2019 those patients' age range was 60 years - 84 years of both genders. This geriatric clinic receives patients from 60+ years according to the administrative order of Iraqi Ministry of Health and Ministry of Labor and Social Affairs. The mean age of patients was  $70.33 \pm 6.77$  years. Two thirds of them (65.0%) were males with a mean age of  $71.49 \pm 6.5$  years while, one third of them (35%) were females with a mean age of  $68.18 \pm 6.69$  years. The following geriatric syndromes were considered in this study; urinary incontinence, constipation, forgetfulness, falls, weight loss, psychological problems (depression, dementia), sleep disturbance (insomnia) and osteoporosis. The diagnosis of osteoporosis depended on use of DEXA scan that measures bone mineral density (BMD). Both psychological problems (depression, dementia) and sleep disturbance (insomnia) were diagnosed by psychiatrist in a specialist near door psychiatric clinic in this hospital depending on semi-structured interview based on DSM-5 criteria<sup>(13)</sup>. This study was performed to assess the frequency of common geriatric syndromes and interview the working state. The statistical analysis used in this study was performed using SPSS and chi-square test was calculated ( $P < 0.05$  was considered significant).

**Table (1): Distribution of geriatric patients by age and sex**

Age group (year)	Female (N=105)		Male (N=195)		Total (N=300)	
	No.	%	No.	%	No.	%
60 -64	45	43	36	18	81	27
65 -69	25	24	44	23	69	23
70 -74	18	17	62	32	80	26.7
75 -79	10	9	34	17	44	14.6
80 -84	7	7	19	10	26	8.7

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### RESULTS:

Elderly patients were classified according to their age and sex as shown in table (1)

Results of this study showed that the most common geriatric syndromes that motivated elderly patients to seek healthcare included

the following: sleep disturbance (50%), urinary incontinence (48%), osteoporosis (39%), constipation (38%) and falls (28%) as represented in table (2).

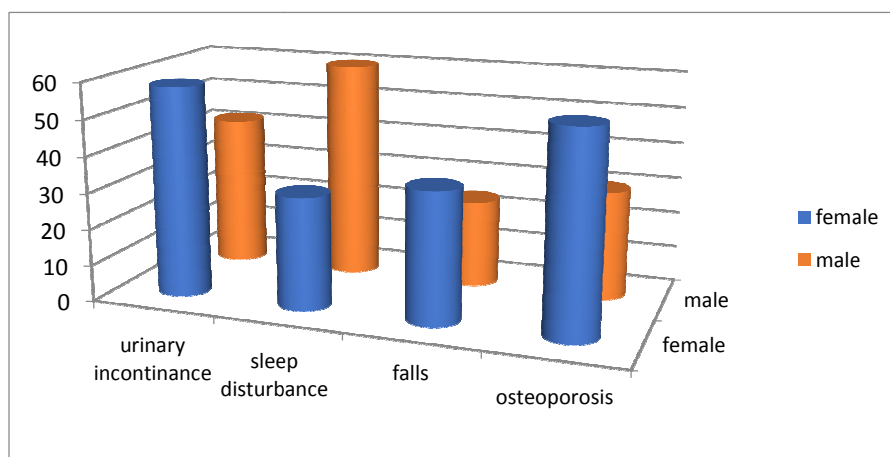
**Table (2): Prevalence of Common geriatric syndromes by gender**

Common geriatric syndromes	Female (N=105)		Male (N=195)		Total (N=300)		P- value
	No.	%	No.	%	No.	%	
Urinary incontinence	61	58	82	42	143	48	0.0113
Constipation	41	39	74	38	115	38	0.950
Forgetfulness	35	33	51	26	86	29	0.238
Falls	38	36	47	24	85	28	0.0374
Weight loss	30	29	51	26	81	27	0.753
Psychological problems	24	23	39	20	63	21	0.6665
Sleep disturbance	33	31	117	60	150	50	0.0001
Osteoporosis	58	55	59	30	117	39	0.0001
Medical diseases	96	91	183	94	279	93	0.5854

The prevalence of common significant geriatric syndromes in relation to gender showed that urinary incontinence (58%), falls (36%) and osteoporosis (55%) more in elderly women while sleep disturbance (60%) more in men

(Table 2 and fig.1).

There was no significant difference in gender regarding constipation, forgetfulness weight loss and psychological problems (Table 2).



**Fig. (1): Common geriatric syndrome of study sample by sex.**

The study demonstrated that urinary incontinence was frequent in women (33%) at age 60-64 years while in men (45.4%) at the age 75-79 years.

Falls were more recurrent for women (20.3%) at age 65-69 years and more in men (31.8%) at the age 75-79 years.

Sleep disturbance was more frequent in men (54%) at age 70-74 years, and (58%) for men

more than 80 years while, (21 %) for women at age 60-64 years.

Osteoporosis was more recognizable for women (25%) at age of 60 -64years than for men (34%) at age 75 -79 years.

The influence of age and common geriatric syndromes was demonstrated in fig. 2.

COMMON GERIATRIC SYNDROMES

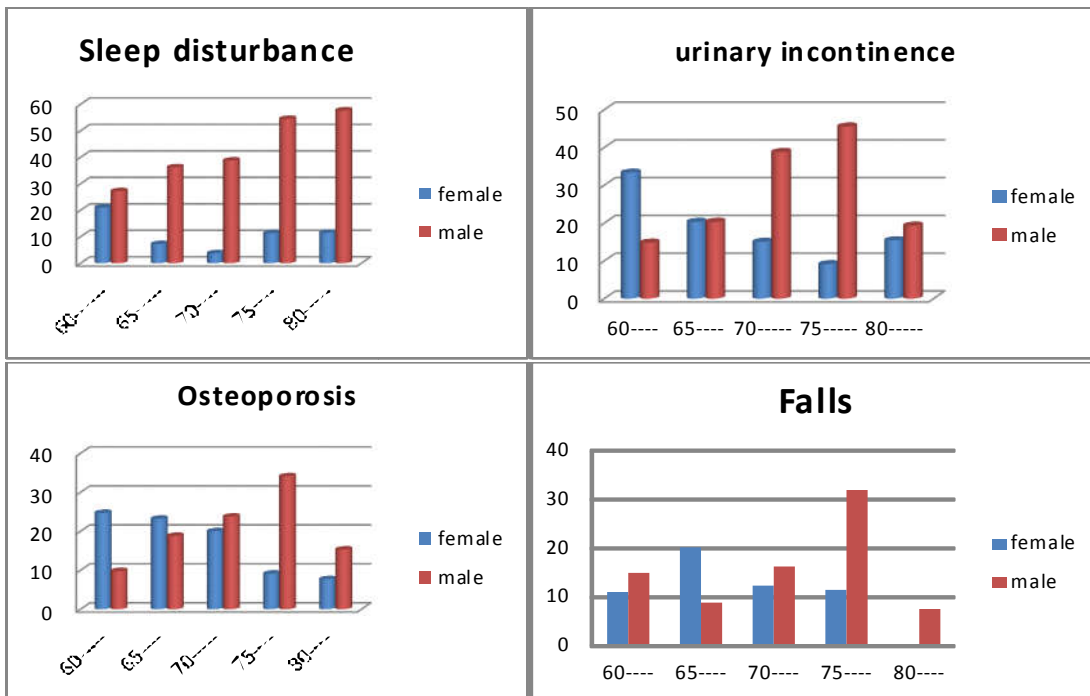


Fig. (2): Common significant geriatric syndromes by age and sex.

Constipation was more frequent for men (35%) at age 70 -74years and for women (22%) at age 65-70 years.

There was a normal decline in memory and concentration start earlier in female (25%) at age 60-65 years and (23.2%) for men at age 65-70 years.

More weight loss in males (20.45%) at age 75-79

years and (11.2%) for females at age 70 -75 years while, psychological problems were (25%) for males at age 75-79 years and (10%) for females at age 65-69years.

More than half of patients (56%) were retired while, third of older adults (34.6%) were unemployed as described in table (3) and fig 3.

Table (3): Working state of geriatric patients with gender

Working state	Female (N=105)		Male (N=195)		Total (N=300)		P- value
	No.	%	No.	%	No.	%	
Working	4	3.8	24	12.3	28	9.4	0.027
Retired	46	43.8	122	62.6	168	56	0.0027
Unemployed	55	52.4	49	25.1	104	34.6	0.0001

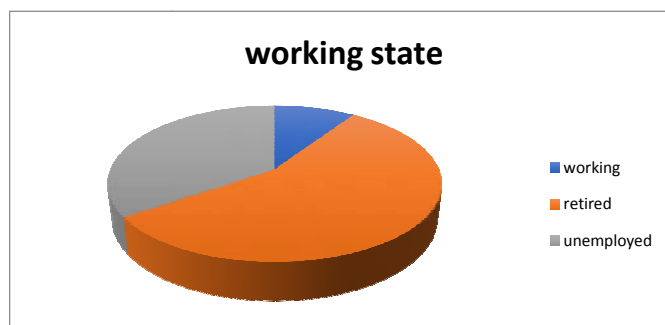


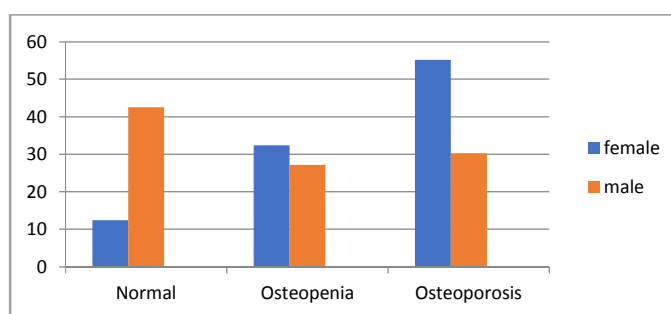
Fig. (3): Working state of geriatric patients

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In addition, the study showed about (39%) of older adults had osteoporosis and low bone mass however, approximately one in two women (55.2%) and up to one third (30.2%) of the men that aged 60 years and older had a fracture due to osteoporosis as illustrated in table (4) and fig. 4.

**Table (4): Relation of bone mass density of elderly patients with gender**

Bone mass density	Female (N=105)		Male (N=195)		Total (N=300)		P- value
	No.	%	No.	%	No.	%	
Normal	13	12.4	83	42.6	96	32	0.0001
Osteopenia	34	32.4	53	27.2	87	29	0.4159
Osteoporosis	58	55.2	59	30.2	117	39	0.0001



**Fig (4): Bone mass of elderly patients with gender**

There is a significant association of working state in elderly patients with osteoporosis and psychological problems. Table (5) showed that osteoporosis and psychological problems decreased in working elderly patients.

**Table (5): Influence of working state on common geriatric compliance**

Common geriatric compliance	Working (N=28)		Retired (N=168)		Unemployed (N=104)		Total (N=300)		P- value*
	No.	%	No.	%	No.	%	No.	%	
Urinary incontinence	12	8.4	86	60.1	45	31.5	143	48	0.736
Sleep disturbance	14	9.3	96	64	40	26.7	150	50	1.000
Osteoporosis	5	4.3	61	52.1	51	43.6	117	39	0.027
Constipation	7	6.1	63	54.8	45	39.1	115	38	0.186
Forgetfulness	4	4.7	48	55.8	34	39.5	86	29	0.119
Falls and imbalance	4	4.7	52	61.2	29	34.1	85	28	0.127
Weight loss	11	13.6	44	54.3	26	32.1	81	27	0.188
Psychological problems	13	20.6	3.2	50.8	18	28.6	63	21	0.0013

\* = Retired and unemployed patients were considered as non- working during the current time of study.

### DISCUSSION:

Geriatric syndromes are common and serious conditions for older people holding substantial implication for functional quality of life. The prevalence of geriatric syndromes was higher in females aged between 60-64 years (43%), while in males age 70-74 years (32%).

The women have higher prevalence and incidence of functional limitations of the lower extremities than men<sup>(14)</sup>. Regarding working status 56% were retired 34.6% un employed but only 9.4% were working.

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It was significantly ( $p < 0.05$ ) clear that retirement worsened both mental health and HLFC (higher level functional capacity) in people 65 years and over<sup>(15)</sup>.

The prevalence of urinary incontinence in female 58% higher than males 42%. More women are incontinent than men but both sexes feel the changes of aging neurologic and urologic systems. Women have additional changes related to anatomy and previous child birth, while men have changes related to prostatic enlargement and prostatic surgery<sup>(16)</sup>.

Falls are common geriatric syndrome in elderly females 36%. Falls present a huge and common risk to the elderly including fractures. A recent study shows that 70 years old women are at greater risk of falling compared to men<sup>(17,18)</sup>.

It was reported that, constipation is a common complaint in elderly. The prevalence of constipation is increased with age. Women (26%) and men (16%) of 65 years of age or older complained of constipation<sup>(12, 19)</sup>. This study showed 39% of women while 38% of elderly men complained of constipation.

Osteoporosis is a condition in which bones become more fragile and brittle leading to a higher risk of breakage. Osteoporosis affects one in three women and one in five men in Australia over the age of 50 years<sup>(9,20)</sup>. In this study one in two women and one third of men over the age of 60 years had osteoporosis.

Sleep disturbances are more common in elderly men (60%) than women (31%) in this study. Elderly people show age related sleep changes including fragmented sleep and early awaking<sup>(21, 22)</sup>. Difficulty maintaining sleep was the most commonly reported insomnia, men (37%) and women (30%)<sup>(5)</sup>.

Major psychological problems include family problems, depression, anxiety, dementia and violence. There are five major psychological problems found in elderly people; depression, memory problems or amnesia, dementia, sleep related disorder and Alzheimer's disease<sup>(23)</sup>. In this study 23% of female and 20 % of males had psychological problems.

Weight loss in elderly patients is an important risk factor (27%) of frail people 65 years and older who had weight loss<sup>(8, 24)</sup>. In this study 27% of elderly 60 years had weight loss.

The common causes of weight loss in this study were gastrointestinal diseases. Osteoporosis (4.3%) had decreased in working older adults in this study. Low physical activity is a contributing factor for osteoporosis. Adequate dietary calcium intake and maintaining a physically active lifestyle in late decades of life could potentially translate into a reduction in the risk of osteoporosis<sup>(25, 26)</sup>. Psychological problems (20.6%) had reduced in working elderly patients in the study. It was obvious that retirement worsened mental health<sup>(14)</sup>.

### CONCLUSION:

The most common geriatric syndromes are sleeping problems, urinary incontinence, osteoporosis, constipation and falls.

There is a significant association of gender with urinary incontinence, osteoporosis, sleeping problems and falls.

More than half of patients were retired and one-third were unemployed. Osteoporosis and psychological problems were both reduced in working elderly patients.

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