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RESEARCH ARTICLE

PSYCHIATRIC ASSESSMENT OF ELDERLY IN TAIF, SAUDI ARABIA.

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Abstract

Background: The world is aging with people living longer and fewer children being born. Today, there are some 800 million persons aged 60 and over; this total will double by 2050 when there will be more people aged 60 and over than children under age 15. Psychiatric geriatric assessment attempts to obtain a "big picture" in order to provide quality care for the elderly. Serve as a baseline from which to measure outcomes of treatment**. Methodology:** The study was conducted from 150 ambulant apparently healthy patients (>65 years old) attending the family outpatient clinic in Prince Mansour Hospital for community medicine in Taif city, in March 2018 To determine if the psychiatric geriatric assessment can detect new unknown problems in general practice.

Results: 38 % of the studied elderly have disturbance mood mostly depressive according to the used screening test, 51.3% of the studied elderly have cognitive impairment according to the used screening test (3 item recall test), 32.6 % of studied elderly were liable to fall according to the used screening test, 25.3% of the studied elderly have unsafe Home regarding the troubles either inside or outside home (e.g light, stairs), and 8% of the studied elderly had reduced abilities in basic activity of daily living.

Conclusion: Development of a new psychiatric assessment sheet based on the elderly needs and the developed practice guidelines to be strictly followed and adequately implemented.

Introduction:-

Psychiatric geriatric assessment attempts to obtain a "big picture" in order to provide quality care for the elderly. Serve as a baseline from which to measure outcomes of treatment **(1)**.

The aging population is heterogeneous. Researchers group this population by ages, with 65–74–year-olds considered "young-old," 75–84-year-olds considered "old," and those 85 years and older, "old-old." Those with the poorest health are identified as "frail" or "at-risk" elders. **(2)**

The world is aging with people living longer and fewer children being born. Today, there are some 800 million persons aged 60 and over; this total will double by 2050 when there will be more people aged 60 and over than children under age 15, **WHO, 2014(3).**

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Aging is highly complex, involving multiple mechanisms at different levels. Much recent evidence suggests that an important theme linking several different kinds of damage is the action of reactive oxygen species (ROS; also known as "free radicals") which are produced as by-products of the body's essential use of oxygen to produce cellular energy **(4).**

The majority of older adults do not need an extensive evaluation; instead, assessment should be oriented toward screening to uncover problems. If screening uncovers a problem or problems, a more extensive evaluation can then be performed and a treatment plan can be implemented **(5).**

The most common diseases and complain in elderly are:-

Depression:-

Depression is common in elderly primary care patients. Depression in later life usually coexists with other chronic medical illnesses, especially hypertension, diabetes mellitus, arthritis, chronic pain, hypothyroidism, coronary artery disease, congestive heart failure, chronic obstructive lung disease, and neurodegenerative disorders such as Alzheimer or Parkinson disease. This amplifies the disability and burden of caregiving occasioned by these illnesses. Depression diminishes quality of life, leads to nonadherence with self-care (diet, exercise, taking medication as prescribed), increases use of other medical services, is a risk factor for suicide (especially in older men), and is frequently associated with cognitive impairment. Depression in later life often does not compete well for time in primary care practices and may go unrecognized and untreated. However, depression in the elderly is treatable **(6).**

The prevalence of dementia approximately doubles every 5 years after age 60. Prevalence is even higher in nursing homes. Approximately 60-70% of dementia cases are due to Alzheimer's disease (AD); vascular dementia (VaD) and Lewy body dementia (DLB) are the other more common forms. In addition, a significant percentage of patients have mixed disease (AD and VaD or AD and DLB) **(7).**

Depression can be confused with other medical conditions. Fatigue and weight loss, for example, may be associated with diabetes mellitus, thyroid disease, underlying malignancy, or anemia. Sleep disturbances as a result of pain, nocturia, or sleep apnea may also lead to daytime fatigue and depressed mood **(8).**

Dementia:-

Age, family history, female gender, and head trauma are known risk factors for **Alzheimer's disease**. The risk factors for **Vascular dementia** are similar to those for stroke (hypertension [HTN], hyperlipidemia, diabetes mellitus, smoking, age, male gender). Prevention of **Vascular dementia** should be aimed at preventing and treating its modifiable risk factors. In fact, modification of these same risk factors may also be beneficial in the prevention of **Alzheimer's disease**. In addition, increased education, physical activity, nonsteroidal anti-inflammatory drugs (NSAIDs), estrogen, statins, antioxidants (such as vitamin E), and moderate levels of alcohol intake may be associated with a decrease in the risk of AD **(9)**

The classic triad of findings in **Alzheimer's disease** is memory impairment manifested by difficulty learning and recalling information (especially new information), visuospatial problems, and language impairment which are severe enough to interfere with social or occupational functioning. **(10).**

The diagnosis of **Vascular dementia** is based on the presence of clinical or radiographic evidence of cerebrovascular disease in a patient with dementia. Sudden onset of dementia after a stroke or stepwise, rather than continuous, decline is supportive of the diagnosis. focal neurological findings on examination are supportive also (**11).**

The core features of **Dementia with Lewy bodies** are Parkinsonism, fluctuation in cognitive impairment, and visual hallucinations. The presence of 1 of these features suggests possible DLB, and the presence of 2 or 3 suggests probable DLB **(7).**

Mini-Mental State Examination: The Mini-Mental State Examination is a 30-point tool that tests orientation, immediate recall, delayed recall, concentration/calculation, language, and visuospatial domains. However, the MMSE is a culturally and language-biased test, and adjustments should be made for age and level of education. When scores are adjusted for age and education, the MMSE has a high sensitivity and specificity for detecting dementia (82% and 99%, respectively) (**12).**

Cholinesterase inhibitors: There are 4 drugs which are FDA approved to treat mild to moderate AD (MMSE 10-24), all of which are acetylcholinesterase inhibitors (AChEIs): tacrine, donepezil, rivastigmine, and galantamine **(13).**

Fall:-
The incidence of fall increases with age. Up to 50% of falls result in some injury. Approximately 10% of falls require hospitalization because of injuries sustained, including bone and hip fractures. Persistent pain and mobility limitation are common after a fall-related injury. Almost 50% of patients seen in an emergency room for a fall injury will have continued pain and mobility limitation 2 months after the fall. Falls are associated with increased risk for nursing home placement, functional decline, and fear of falling **(14).**

Risk factors include vision impairment, muscle weakness, peripheral neuropathy, balance and gait abnormalities, use of psychotropic medications, impaired cognition, foot problems, lower extremity arthritis, neurological diagnoses such as stroke and Parkinson's disease, orthostatic hypotension, and recent hospitalization. Risk factors for injury with a fall include older age, low body mass index, previous fracture, low bone mineral density, and loss of consciousness (LOC) **(15).**

The best evidence for the efficacy of interventions to prevent falling emerges from large well-conducted randomized controlled trials. It has been clearly demonstrated that the most consistently successful approach to prevention is multifactorial assessment followed by interventions targeting the identified risk factors **(16).**

Urinary Incontinence:-
Reported prevalence for Urinary Incontinence varies. However, available figures most likely underestimate the true prevalence of this syndrome for a variety of reasons. Major reasons identified for inaccurate reporting of the true prevalence of UI include failure to perceive the significance and ominous implications of UI by affected elders, and also the misconception that UI is an expected consequence of aging. Patient discomfort and lack of awareness of effective treatment options are other barriers to self-reporting **(17).**

Urinary Incontinence Associated with Overactive Bladder:-
Overactive bladder occurs in 1 of 4 adults over the age of 65, and is the most common cause of UI in the elderly. Characteristically, overactive bladder results from involuntary contractions of the detrusor muscle, resulting in a strong urge to pass urine in unusually low volumes. Clinically, OAB manifests with urgency, frequency, and nocturia with or without urge incontinence **(18).**

Stress Incontinence:-
Stress incontinence is the underlying cause in 25% of women with UI, and results from anatomical or pathological disruption of the angle between the bladder neck and the urethra, thereby disrupting continence. Causes of stress incontinence include vaginal childbirth, and pelvic surgery such as hysterectomy or prostate surgery. Characteristically, stress incontinence presents with involuntary urine loss resulting from increases in intra-abdominal pressure in the presence of a relatively incompetent urethral sphincter mechanism **(19).**

Overflow Incontinence:-
Overflow incontinence results from bladder outlet obstruction, resulting in massive bladder distension. Consequently, involuntary urine loss results from a buildup of intravesical pressure until the mechanical outlet obstruction is overcome by pressure. Persons with overflow incontinence complain of persistent trickling of urine in the presence of suprapubic distension. In men, prostatic enlargement is the most common cause of overflow incontinence. Pelvic masses, such as uterine fibroids, or cystoceles may cause similar obstructive symptoms in women **(20).**

Functional Incontinence:-
Functional incontinence refers to involuntary urine loss resulting from inability to gain access to toileting facilities for a variety reasons including limited mobility, impaired cognition, environmental barriers, or restricted access. This is a common cause of incontinence in frail elders with dementia, cerebrovascular disease, Parkinson’s disease, or delirium. Altered mental status from narcotics, sedatives, or narcoleptic agents are also frequently implicated **(21).**

Aim of the work:-
To determine if the psychiatric geriatric assessment can detect new unknown problems in general practice.

Materials and Methods:-

The study design:-
The current study is a cross sectional conducted in Outpatient Clinic in Prince Mansour Hospital for community medicine in Taif city, Saudi Arabia approved to participate in the study in March 2018.

Study sample:-
A sample of 150 ambulant apparently healthy patients (>65 years old) attending the family outpatient clinic was chosen. A non probability purposive sampling technique was used. Any elderly attending the clinic was included after his/her verbal consent.

Exclusion criteria:
Under the age of 65 years old, Inability to speak, inability to hear or intellectual inability to answer the questionnaire

Tools of the study:-
Elderly patient attending the clinic were asked to respond to the questions after explaining the objectives of the study to them. A verbal consent was obtained from each client before the interview. The patient was then comfortably seated, assured for confidentiality and motivated to give the true answers. Slang Arabic was used to insure that interview would be stimulated exactly in the same way.
Then the health card of the studied elderly was checked for new problems discovered by the assessment.

Content of the study tools:-
In this study, San Francisco Veterans Affairs Medical Center (VAMC) simple geriatric screen was used; it includes 29 questions had to be answered by the patient and 4 tests had to be done by the Physician (Timed Up & Go test, 3 item recall test, and BMI).

1. For depression screening we used 2 questions screening “Over the past month have you often been bothered by feeling sad or depressed?" and "Over the past month have you often been bothered by little interest in doing things?" instead of the one question that present in the VAMC geriatric screen.
2. A “yes” response to any of these questions has a sensitivity of 83% and specificity of 79 %.
3. We used this screening test for depression because it is simple , convenient , and facilitates the assessment of the affective state rapidly.
4. For cognitive impairment screening we used a very simple three-item recall test which has a sensitivity of 90% and specificity 60%.
5. This test was used because it is short and convenient for use by the primary care physician. Also, it may be too easy for the average outpatient.
6. For screening incontinence, all older patients were asked “Do you ever lose your urine and get wet?” Affirmative answers should be followed up with the question, “Have you lost urine on at least 6 separate days?” Also, they were asked about stress incontinence.
7. We assess the gait and balance impairment by asking patients about their histories of falls, including frequency and Timed Up-and-Go Test. In the Timed Up-and-Go Test, patients arise from a seated position, walk 3 meters, turn around, return to the chair, and sit down. A healthy elderly individual should be able to complete this task in less than 10 seconds; any result greater than 20 seconds should prompt a more in-depth evaluation. This test has 88% sensitivity and 94% specificity.
8. All elderly shared in this research were asked about Environmental hazards that may lead to falls such as; poor lighting, pathways that are not clear and loose rugs or other slip and trip threats.
9. For assessment of malnutritional status we used the question "Have you lost 10 pounds(4.5kg) over the last 6 months without trying to do so?” or measurement of BMI if which is an effective and simple screen for malnourishment if it is less than 22. This method has 70 % sensitivity and 88 % specificity. We chose weight loss because it is associated with increase in the mortality and morbidity risk in the elderly
10. All elderly in the research were asked about their social history, who lives with them and who provides meals and transportation if the patient is unable to do so.
11. For functional status assessment we ask about:
12. Basic activities of daily living: feeding, maintaining continence, transferring, toileting, dressing, and bathing.

13. Instrumental activities of daily living include tasks such as paying bills, taking medications, shopping, and preparing food.

Implementation of the study:-

Pilot testing:-

Before starting the practical phase of the study, pilot study was performed. The aim of which was to delete confusing questions, add questions that evolved during the interview and assess the time needed for each interview. The pilot study was conducted on 10 of the elderly (>65) . It was found that some of patient were illiterate and cannot draw and write the numbers of the clock in the clock drawing test and so we had to remove this test from the sheet and use the 3 item recall test only to test the cognition.

Ethical clearance:-The study proposal will be approved by the Regional Research and Ethics team in Taif Armed Hospitals.

Verbal consent will be obtained from each participant to voluntary participate in the study.

Data analysis:-

Collected data was coded, verified and analyzed using SPSS program version 22. Descriptive statistics was applied in the form of frequency and percentage for categorical variables while mean and standard deviation was utilized for description of continuous variables. Chi-square test was applied to test for the association and/or difference between categorical variables. Other statistical tests were used whenever appropriate. A p-value of equal or less than 0.05 was considered as statistically significant.

Results:-

Table 1:-Distribution of the studied elderly according to Socio-economic and Demographic data.

Parameters	**%**	**N**
Male	**68**	**45.3 %**
Female	**82**	**54.6%**
Age		
65-69	**69**	**46%**
70- 74	**54**	**36%**
>75	**27**	**18%**
Age mean ± SD	**69.3**±1.15	
Marital status		
Married	**58**	**38.6%**
Not married	**20**	**13.3%**
Divorced	**11**	**7.3%**
Widowed	**61**	**40.6%**
Average family monthly income in SR		
Less than 5000 RS	**19**	**12.6%**
5000-10000 RS	**71**	**47.3%**
10000- 15000 RS	**43**	**28.6%**
More than 15000 RS	**17**	**11.3%**
Living status		
With others	**103**	**68.6%**
Alone	**47**	**31.3%**
Place of residence		
Taif city	**139**	**92.6%**
Outside Taif city	**11**	**7.3%**
Type of residence		
Rented house	**51**	**34%**
Private flat	**76**	**50.6%**
Private villa	**15**	**10%**
Others	**8**	**5.3%**
BMI		

Underweight	**33**	**22%**
Normal weight	**68**	**45.3%**
Overweight	**29**	**19.3%**
Obese	**20**	**13.3%**
Mean ± SD	**24.37±8.65**	
History of chronic disease		
Yes	**106**	**70.6%**
No	**44**	**29.3%**

The table above shows that 54.6 % of elderly shared in this research were female and 45.3% of them were male. 46 % of elderly shared in this research was within the age range 65-69 years, 36 % of them were between 70- 74 years and 18 % were above 75 years.31.3% of elderly shared in this research was lived alone, 22% of elderly shared in this research was Underweight, while 19.3% of elderly shared in this research was Overweight and 13.3% was Obese. 70.6% of elderly shared in this research had a History of chronic disease while 29.3% had not.

Table 2:-Proportion of the studied elderly who have a psychiatric problem:

Problem	**N**	**%**
Disturbance mood mostly depression:		
Newly diagnosed	**25**	**16.6%**
persons with the previous problem	**32**	**21.3%**
No depression	**93**	**62%**
Problems with Memory short test for dementia:		
Newly diagnosed	**55**	**36.6%**
persons with the previous problem	**22**	**14.6%**
No dementia	**73**	**48.6%**
Falls:		
persons with new identified problem	**28**	**18.6%**
persons with the previous problem	**21**	**14%**
No falls	**101**	**67.3%**
Urinary incontinence:		
Yes	**72**	**48%**
No	**78**	**52%**
Home safety (e.g light , stairs):		
Safe home	**112**	**74.6%**
Unsafe home	**38**	**25.3%**
Financial problems in emergency medical problems	**13**	**8,6%**
Financial problems in usual medical problems	**8**	**5,3%**
Weight loss	**18**	**12%**
Social problems (was not mentioned their health card)	**16**	**10,6%**
reduced abilities in basic activity of daily living	**12**	**8%**

The table above shows that 38 % of the studied elderly have disturbance mood mostly depressive according to the used screening test but this problem was not recorded in 16.6% of them in their health card i.e. unrevealed neither by the patients nor by the physician. Also shows that 51.3% of the studied elderly have cognitive impairment according to the used screening test (3 item recall test) and in 36.6% of those studied elderly, this problem was not recorded in their health card. And shows also that 32.6 % of studied elderly were liable to fall according to the used screening test (Frequencies of falls & timed up and go test) but this problem was not recorded in18.6% of them in their health card i.e. Unrevealed. 48% of the studied elderly have urinary incontinence according to the used screening test. 25.3% of the studied elderly have unsafe Home regarding the troubles either inside or outside home (e.g light, stairs). 8.6% of the studied elderly had financial problems regarding the emergency medical care, 5.3% of the studied elderly had economical problems regarding the usual medical care. 12% of the studied elderly had Weight loss and 8% of the studied elderly had reduced abilities in basic activity of daily living.

Table 3:-Relation between Socio-economic-demographic data and Disturbance mood among study group and Problems with Memory short test for dementia

Demographic data		N	Mean± SD			T or F	Disturbance mood mostly depression		Problems with Memory short test for dementia:	
							test value	P-value	test value	P-value
Age	65-69	69	66.158	±	1.345	T	-0.519	0.604		
	70- 74	54	72.247	±	1.133				1.985	0.048*
	>75	27	77.247	±	1.376					
Gender	Male	68	22.919	±	2.813	F		0.091	2.471	0.086
	Female	82	23.513	±	3.056		2.267			
Marital status	Married	58	23.209	±	2.884				0.768	
	Not married	20	18.455	±	4.928	F		0.440		
	Divorced	11	16.867	±	3.157		0.824			0.756
	Widowed	61	23.243	±	2.506					
Place of residence	Taif city	139	25.197	±	2.904	T	-1.798	0.074	1.236	0.292
	Outside Taif city	11	15.333	±	4.926					
Type of residence	Rented house	51	22.452	±	3.338	F	0.799	0.451	0.590	
	Private flat	76	24.393	±	2.506					
	Private villa	15	17.757	±	2.715					0.556
	Others	8	15.833	±	3.157					
Living status	With others	103	25.500	± 4.629		F	0.753	0.472	5.727	0.001*
	Alone	47	20.333	±	6.088					
Average monthly income	5000 RS ≤	19	18.938	±	3.408	F	2.764	0.042*	0.259	0.796
	5000-10000.	71	24.162	±	2.483					
	10000-15000RS	43	21.456	±	2.234					
	15000 RS≥	17	16.963	±	2.921					
BMI	Underweight	33	22.938	±	3.408	F	3.978	0.008*		
	Normal weight	68	25.162	±	2.483					
	Overweight	29	21.456	±	2.234					0.534
	Obese	20	19.963	±	2.921				0.622	
History of chronic disease	Yes	106	25.445	±	2.670	F	4.562	0.011*	1.985	0.048*
	No	44	19.439	±	2.582					

Discussion:-

One of the main objectives of medicine for elderly people is to prevent or delay the onset of functional status decline. Epidemiological research has shown that functional status decline is related to medical, functional, psychological, social, and environmental risk factors. Therefore, for both rehabilitation as well as prevention, the approach of multidimensional assessment helps to take into account potentially modifiable factors in all relevant domains (22).

In our study, it was found that 38 % of elderly had disturbed mood (depressive) according to the used screening test. This was in accordance with Sulaiman A. Al Shammari , 1999(23), who revealed that depression was prevalent in over 50% in the population studied. Risk factors for depression include absence of health insurance, lack of rehabilitation program, low income, loss of social support, physical illness and lack of caregiver. Abolfotouh,2001 in Abha Saudi Arabia,(24) revealed that prevalence of depression was around 17.5% in outpatient clinic over the

age of 60. Abou- Hatab mentioned that that the most psychiatric disorders among elderly are depression and senile dementia (25).

In our study, it was found that 51.4% of the studied elderly had cognitive impairment according to the screening test. In another study, El Abolfotouh,2001 stated that the prevalence of dementia was around 25% in outpatient clinic over the age of 60 . Another alarming study by Abou- Hatab, who has found that cognitive impairments in institutional care were prevalent in more than 50% of the residents. (25). Cognitive impairment and dementia should be detected as early as possible in older patients so the patient's quality of life may be improved, when the patient enrolled in a day care program as in Folstein1992(26). The prevalence of dementia, an acquired, progressive impairment of multiple cognitive domains, is age dependent. Therefore, the yield of screening for cognitive impairment increases as the population ages. Because the initial phases of impairment can be quite subtle, it can be difficult for a clinician to make the incidental discovery of cognitive impairment. Structured examination techniques may be helpful in detecting early dementia (26).

Another common problem is falls which was found in32.8 % of the studied elderly. Incontinence in elderly is common. Although it is a treatable problem but is often not raised by patients as a concern.

In our study, it was found that 48% of the studied elderly had urinary incontinence problem according to the used screening test. Abolfotouh,2001 in Abha Saudi Arabia has conducted a study to estimate the prevalence of different type of incontinence in the hospital's outpatient clinic . The study found that the prevalence of the stress incontinence in women was 39.3%, urge incontinence in women was 14.3% combined stress and urge incontinence was 39%. In men, 2 % had over flow incontinence (25). Available figures of urinary incontinence UI prevalence most likely underestimate this problem for a variety of reasons. Major reasons identified for inaccurate reporting of UI include failure to perceive the significance and ominous implications of UI by affected elders, and also the misconception that UI is an expected consequence of aging. Patient discomfort and lack of awareness of effective treatment options are other barriers to self-reporting Dugan et al., 2001(17).

In our study, it was found that 10.6% of the studied elderly have social problems. Fagr-el nour in 1993 have shown that the social consequence of aging were similar in urban and rural areas. Both groups expressed the need for money, attention of their sons and daughters (Abou- Hatab.K, 2000).

There is a strong association between patients' social functioning and health status. Clinicians should be familiar with their patients' levels of social interaction. During times of physical or emotional stress, these social networks may mean the difference between remaining independent in the community or requiring nursing home care Rainier, 2007(27).

In this study, there were 8% of the studied elderly had reduced abilities in basic activity of daily living. In one study found that that more than half of the study population were independent on others on their activity of daily living (Abou- Hatab.K, 2000).

Assessment of function is at the core of caring for older adults. The capacity to perform functional tasks necessary for daily living can be used as a measure of independence or a predictor of decline and institutionalization. A specific evaluation of functional status is necessary in older individuals, because functional impairment cannot be predicted by an individual's medical diagnoses; because specific functional loss is not disease specific and cognitive impairment does not necessarily imply inability to function independently in a familiar environment. Functional assessment can identify an older individual's capabilities and, by noting changes in these, can prompt the search for possible illness such as cognitive impairment, depression, substance abuse, adverse drug events, or sensory impairment, and then guide interventions using the appropriate support and resources (1).

Recommendation:-

1. Development of practice guidelines and standards of care for elderly in order to achieve, maintain and advance good quality health services. These guidelines should be clearly written and regularly communicated to all health service providers by references manuals, posters, checklist and other job aids.
2. Development of a new psychiatric assessment sheet based on the elderly needs and the developed practice guidelines to be strictly followed and adequately implemented .

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