

Preventive Geriatric Assessment: A Suggestion for a Short Comprehensive Geriatric Assessment

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Abstract

The preventive geriatric assessment is an approach, which covers the geriatric assessment of elderlies in family practice. Even the essence is an evidence-based screening approach, it covers interventions to improve wellness and quality of life of elderly people. Data retrieved from this examinations will help to develop a care plan in healthy individuals and patients. It could help present manageable conditions for family practice or could provide additional information for consultation or referral procedures. It is the basics of an individualist preventive health program. Because the performance of comprehensive geriatric assessment is time-consuming, it is performed in-patient or in several subsequent steps. Due to room and time constraints in family practice, a need for shorter comprehensive geriatric assessment instrument, which is considering preventive measures is evolving. This review is introducing a short comprehensive geriatric assessment instrument, which has been developed for his purpose.

Keywords: Geriatric assessment, preventive medicine, family practice

Introduction

The short communication aims to provide insight into the preventive assessment of elderly individuals and patients who encounter family health centers and family medicine outpatient clinics or who are seen at home during their home visits.

Definitions

Throughout the life cycle, the definition of health and well-being is changing. Deaths and

sequelae due to the communicable diseases decrease; cancer, noncommunicable diseases and the negative effects of their sequelae are especially affecting elderly individuals. As the age increases, it is reported that at least two of fifth have one and at least half have two and more chronic diseases. As the number of chronic diseases increases, the likelihood of individuals having geriatric syndromes increases (1). Therefore, the elderly individuals have different levels of health status (2, 3).

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The concept of the geriatric syndrome has been tried to be defined by different authors in different ways (4). According to Ferrucci and Studenski, the geriatric syndrome is a common clinical condition with the common clinical manifestations in elderly individuals, involving organs not related to the main complaints, which are responsible for multifaceted physiopathologic mechanisms, which have disruptive effects on their function and quality of life.

The geriatric syndromes include incontinence, delirium, falls, pressure ulcers, sleep disorders, nutritional problems, malnutrition, sensory losses, pain, fatigue, depressive mood, dementia, dizziness, gait disturbances, and physical disability. It is also possible to say that geriatric syndromes contribute to the development of vulnerability and that some risk factors are common (5,6).

Comprehensive geriatric assessment (CGA) can be defined as a diagnosis and treatment processes, which is a result of a teamwork of many disciplines. During this process, the functional, medical, spiritual, and social needs of frail individuals are determined and a coordinated care plan is established.

The care plan created is a more comprehensive approach that transcends traditional medical disease treatment. It is aimed to identify the treatable conditions with CGA and to provide a better management to the patient (6).

Preventive elderly assessment can be considered as "Short" CGA, which can be applied in family health center setting

It is easy to detect the clinical condition and diseases related to aging with CGA. Detection of geriatric syndromes can prevent or delay the development of complications. It is more likely to use it for diagnostic purposes, but it also includes management of identified problems. Sometimes it is perceived as a process of identification and referral and sometimes as a multidisciplinary process (6). The form and scope of the CGA in this framework vary according to its implementation (7).

Adequacy of the CGA indication will determine the success of the assessment to be performed. Taking a very healthy or very sick individual in the framework of the CGA will negatively affect the usefulness of CGA. The Ministry of Health Public Health Agency of Turkey issued the "Periodic Examination in the Family Medicine

Table 1. Health Status of Elderly Individuals

Variables	Healthy	Chronic Disease	Frail	Terminal
Health Condition	Acute Disease; Early Chronic Disease	Progressed Chronic Disease	Multi-Morbidity; Geriatric Syndrom	Terminal Condition
Effect on Quality of Life	Low	Some	Significant	Significant
Instrumental Activity of Daily Living	Independent	Partially Independent	Dependent	Dependent
Activity of Daily Living	Independent	Independent	Dependent	Dependent
Middle-Aged Population	85-90%	8-12%	2-3%	<1%
Geriatric Population	50-65%	25-40%	5-10%	1-2%

Practice Guide", which recommends all family physicians to screen (CGA) patients aged 65 and over every five years (8).

The expected life duration and diseases of elderly individuals should be taken into account, especially in the case of screening. Thus, for example, patients should be divided into prognostic groups such as "fit", "frail", "moderately demented" or "end of life" and the tests to be applied should be included accordingly. As the prognosis worsens and the life expectancy becomes shorter, examination intervals should be monitored and invasive interventions and other examinations should be discontinued (9-11).

In the preventive approach, the level of health and prognostic status of the elderly or the patient is also determined by the level of prevention and the problem (syndrome) or disease to be avoided (Table-2)(2,3).

Table 2. Preventive Approach and Health Level of the Patient/ Elderly

Prevention Level	Healthy	Chronic Illness	Frail	Terminal Condition
Primary and Secondary Prevention	High Priority	Priority	Priority	Low Priority
Tertiary Prevention	Priority	High Priority	High Priority	Low Priority
Geriatric Syndrome	Low Priority	Priority	High Priority	Priority
Iatrogenic Disease	Low Priority	Priority	High Priority	High Priority

Therefore, the advanced aged patients, those with medical comorbidities, psychological problems, socially self-isolation, geriatric syndrome and burdened health expenditures

are most likely to benefit from CGA. CGA is not recommended for those who are in the terminal period, those with advanced dementia, or those who are completely dependent (6).

Among the objectives of the CGA are to maintain the functioning and the quality of life of the elderly individual. Screening and management decisions to be made due to the fact that elderly individuals are very heterogeneous in the context of physiological and functionalities should be specific to the individual (1). There is no prescription for each patient. Tests in a screening program intended for elderly people should have a screening test in particular. Elderly people should consider their life expectancy. There are formulas to support your decision concerning this.

Short, medium and long-term care goals are could be considered as CGA targets by time: (1)

a. Short-term goals: goals to meet acute and short-term health needs. The goal is to correct the acute illness of the patient. It deals specifically with end-of-life and palliative care issues. It is possible to manage the problems that arise during episodic care in this context. It covers up to one year of care.

b. Medium-term goals: Covers the process from one to five years.

c. Long-term goals: Decisions and goals taken to maintain health in highly healthy and fit individuals. The life expectancy and the expectations regarding the future care plan of the patient can be assessed. After receiving consent, this issues could be discussed with relatives and caregivers.

Screenings and Preventive Medicine Approach

CGA is a very intensive, comprehensive and time-consuming process, involving traditional

medical examination and history. Especially in family practice, the time burden of the work and the nature of the transactions are always mentioned as an important problem.

In this framework, various tests for family practice have been developed and used to shorten the duration of CGA. (4) We want to propose the "Age-Friendly Primary Health Care Instrument Toolkit" (4,7,12-14) developed by a group of experts of the World Health Organization.

The "Age-Friendly Primary Health Care Instrument Toolkit" has been developed for developing and resource-constrained countries, but it is possible to apply it in every country where the family medicine is offered as a general health service model. Considering the literature, it is suggested to have the following components (6) in the "first" CGA:

- a. Cognitive status
- b. Depressive Mood
- c. Urinary / Fecal Incontinence
- d. Functional status: ADL, IADL and Advanced ADL (AADL)
- e. Fall history and performance tests (Rise Walk Test, Walking Speed Test, Balance Test, etc.)
- f. Nutrition / Change in Body Weight
- g. Vision / Hearing Problems
- h. Oral Health
- i. Pain
- j. Drug use: Polypharmacy and drug interactions
- k. Alcohol / Cigarette / Substance Abuse
- l. vaccinations
- m. chemoprophylaxis
- n. Auxiliary Device Usage
- o. Sexual Function Status
- p. Life quality
- q. Access to Health Care

- r. Social Support / Network
- s. Legal Support
- t. Advanced Life Direction
- u. Financial Status
- vi. Housing Status
- w. Care Service Requirement
- x. Socio-medical Administrative Service Requirement (Issuing a Report, Prescription)
- y. The caregiver's requirements (Health, Financial, Social Security, Holiday, etc.)
- z. Family APGAR and Family Dynamics

The boundaries of CGA are very broad. It is possible and sometimes difficult to evaluate every point of the elderly individual's life and the environment he lives in. In family practice, psychosocial points of the elderly person should be considered. Even it is not always possible to solve all requirements by the family physician and his team alone, the coordination of the care of elderly people might be helpful as well.

Preventive Elderly Assessment ("Short" CGA)

The "Age-friendly Primary Health Care Instrument Toolkit" can be improved by taking into account the priorities of the elderly individuals in the environment, where the family physicians are working. (4) The time factor should be considered during the development process. The test should be capable to screen fairly and should not occupy the family physician and his team by means of time.

Our suggested "Short" CGA for this reason, can be completed in 20 minutes in experienced hands with the addition of tests to the "Age-friendly Primary Health Care Instrument Toolkit" (MNA scan scale, DENTAL Oral Dental Scan Scale, Timing Test, Drug Questions, Lubben Scale). This test is a first-step screening test and second step tests should be performed with any

pathology appearing in the first test. However, since the second step tests will only be implemented in suspicious cases, family physicians will especially save considerable time and will be able to refer their patients more accurately to specialists with pre-diagnosis obtained from this "Short" CGA, establish health records of their patients, and identify clues for health problems they can manage. The "Short" CGA form, which has been developed by the author and which serves as a first step screening tool is shown in Figure-1.

Figure 1. Short Comprehensive Geriatric Assessment (CGA) Form (1/2)

P. No: "FAST" Comprehensive Geriatric Assessment Form			Date:
1. Sociodemographics Information:			
Name:			
Age: Birth Date: Gender: M / F Marital Status: Married / Single / Widowed			
2. Medical History:			
Disease: DM... Hypoglycemia... HT... HLP... Metabolic Syn... Chron. Ischemic Heart Dis... Acute MI... Periph. Vasc. Dis... VTE... Coagulation Dis... Heart Insuff... AF... Postural Hypot... Chron. Ren. Dis... Chron. Renal Insuff... Nephropathy... Urinary Incont... BPH/Urinary Retent... Liver Dis... IBS... Inflamm. Bowel Dis... P. Ulcus... GERD... Gastric Bleeding... COPD... Asthma... PE... Depression... Dementia... Parkinson D... Epilepsia... CVO... Vertigo... Poliartrit/Poliarthrosis... RA... Osteoporosis... GUT... Neuropathy... Visual Problems... Hearing... Cancer... Other:			
Drugs: Prescribed OTC Pharmaterapy Nutritional Suppl. <4 Drugs >=4 Drugs			
Name of Drugs:			
Surgical Operations: Allergies:			
Smoking: Never Quit Smok... Active Smok... pack/year			
Alcohol: Everyday... More Than Once/Week... More Than Once/Month... Once a Month or Less...			
Substance/Drug Abuse... Support Used: Glasses... Lens... Hearing Aid... Crunch... Other...			
Immunisation: Influenza... Pneumococ... HBV... HAV... Zona... Other:			
Home Safety:			
3. Vitals: BP: / mmHg HR: /min Rhythm: Body Temp: Length: cm Weight: Kg BMI: Kg/m ² Waist Circumference: cm			
4. Physical Examination:			
History	Examination:	Positive Findings:	
	Head/Neck		
	Respiratory		
	CVS		
	Abdominal		
	Neurological		
	Extremities		
6. Second Step Tests			
10 Minute Screening Test		Result: MNA Screening	
Cognition-1: Yes/No		A B C D E F	
Incontinence: 1. Quest Yes/No 2. Quest Yes/No		DENTAL Oral Health Scale	
Depression: Yes/No		Score/Result	
Physical Functional Capacity (Immobility):		A B C D E F	
Cognition-2: 1.response/2.response/3.response		0 0 0 0 1 0	
Falls: Quest: Yes/No Performs Test: Regular...Irregular...		How do you rate your health?	
Nutrition: Change in the weight (last 6 months):		Bad-Medium-Fair-Good-Excellent	
Hearing: Whisper Test R...L... Normal Test R...L...		How do you access the health center?	
Vision: V. Difficulty... Snellen Right... Left...		0-1-2-3-4-5-6-7-8-9->9	
Cognition/Incontinence/Depression/Phys Funct/Nutrition/Hearing/Visual/Oral Health Scale			

In order to save time, in addition to using the short and necessary tests, it is advisable to transfer some tests to the family health worker or outpatient nurse in your team. Further evaluations of positive screening points can be made by the physician. However, in order to be

able to do this, the staff need to be well trained in this regard. As a result of "Short" CGA results, we will be able to take our management decisions about the patient or to decide to consult the patient or to form the basis of a detailed CGA to be carried out in the institution, where the physician considers to refer the patient. The findings of this assessment will be discussed in the care team meeting by including the caregiver and the patient. The care plan will be created by considering the opinions of the patient and of his / her relatives. The care plan will be established afterward. After a certain period, the care plan will be followed up and revised according to need. (6)

Figure 2. Short Comprehensive Geriatric Assessment (CGA) Form (2/2)

6. Second Step Tests		Clock Drawing Test Instruction (Shulman Scoring)		5: Numbers and hands are correctly placed 4: Mild visuo-spatial errors 3: Clear-cut errors in time given 2: Moderate visuo-spatial errors 1: Marked visuo-spatial errors 0: Neither hands, nor numbers are remotely correctly placed Reference: Shulman K, Gold L, Fisher D, et al. Clock drawing and dementia in the community: a longitudinal study. Int J Geriatr Psychiatry 1995;10:875-86.
Clock Drawing Test				
Clock Drawing Test Score: Result:				
MNA Evaluation Test		G H I J K L M N O P Q R Score Result		
Lawton Brody IADL Scale		Telephone Shopping / Cooking / Home Work / Laundry / Transport / Drugs / Financial Score Result		
MMSE / MMSE-E		Figure MMSE: Figure MMSE-E		
Orientation		/10		
Registration		/3		
Attention and Calculation		/5		
Recall		/3		
Language		/9		
Total Score		/30		
Result				
TIME: Not Concluded		Result		
4 meter Walking Test		Seconds		
4 meter Walking Test		Seconds		
*The best walking time of both tests will be used as the test result.				
MOCA		Score		
Visuospatial-Executive		/5		
Naming		/3		
Memory		no point		
Attention		/6		
Language		/3		
Abstraction		/2		
Delayed Recall		/5		
Orientation		/6		
Total		/30		
Result				

The table summarizing the screening and intervention of older people aged 65 years and older is shown below (Table 3)(1). This table is based on Ministry of Health, Public Health Agency of Turkey recommendations. (8)

Table 3. Recommendations for Screening and Interventions in elderly individuals over 65 years of age

Problem	Brief Recommendation
Blood Pressure	Annual checks are recommended. When the treatment is started, follow-up is recommended in terms of orthostatic hypotension, renal function, electrolytes, and falling risk.
Body Weight	The underlying cause of >10 kg/year loss should be evaluated (eg drugs, oral and dental health, food safety, appetite, swallowing, diets, financial situation etc.). Instruments such as MNA Elderly (Mini Nutritional Assessment Elderly) can be used. Body weight change can be monitored by weighing.
Hearing Test	Annual whisper test. If available, audiometric scanning recommended.
Vision Test	Snellen can be applied for visual examination. However, for the visual field, eye pressure, etc.. routine eye consultation is recommended. In particular, in cognitive problems, functional disorders and for further evaluation of falls eye examinations are recommended. It is also included in determining the etiology of delirium.
Cognitive Test	Clock drawing test, three-word recall test, or orientation tests can be used for screening purposes. Screening tests such as GPCOG (The General Practitioner Assessment of Cognition) or MiniCog developed for this purpose can also be applied. In case of a deficit, preferably MoCA (Montreal Cognitive Assessment) test is applied. However, if the level of education is not sufficient, MMSE (<i>Mini-Mental State Examination</i>) or MMSE-E (non-literate <i>Mini-Mental State Examination</i>) should be used. Relatives and caregivers should be asked on the cognitive decline of their patient, they are caring for.
Mood	An item found in the 10-minute screening test of the Aging-Friendly Primary Health Care Toolkit can be asked and anhedonia could be checked easily. The Geriatric Depression Scale can be used for further evaluation.
Walking and Balance	Rise and Walk Test could be done.
Urinary Incontinence	The incidence and severity of incontinence are questioned every six months. Two items in the Aging-Friendly Primary Health Care Toolkit 10 minute screening test could be asked. In its presence, medications could be evaluated, a genito-urinary exam, urinary lab test, and appropriate blood tests are performed.
Functional Status	Six items in the Aging-Friendly Primary Health Care Toolkit 10 minute screening test could be asked. With at least one deficit, ADL and/or IADL test is administered. Care support and rehabilitation needs are identified.
Oral / Dental Health	Oral and dental health service requirements are determined with scales such as DENTAL. The oral examination is performed and prosthesis is examined if available.
Sexual Functionality	Sexual Functionality should be asked if necessary.
Vaccination	Those who complete the primer series are applied Tdap every 10 years. Influenza is administered annually. PPSV 23 is performed 6-12 months after PCV 13. >50 one-time Herpes Zoster Vaccine.

Drugs	The drugs used are controlled regularly. Emphasis is given on compliance with treatment. An appointment will be made available to check for inappropriate drug use according to the START/STOPP criteria or the Beers list, if necessary. Efforts are to reduce polypharmacy. Emphasis should be given to the prevention of delirium and prevention of falls.
Chemoprophylaxis	ASA is recommended by weighing the risk of GI hemorrhage in 5-year risk of CAD>3%. 1200 mg of elemental calcium (primarily diet, if not supplemental) and at least 800 IU Vitamin D.
Physical Activity Level	Moderate-severe physical activity (running) 3-5 times a week (150 min/week). Strength training in the days following the run. Flexibility exercises to maintain joint range of motion. Balance and proprioceptive exercises prevent falls.
Smoking	Counseling is provided. If necessary, pharmacological treatment is recommended. Advanced counseling could be recommended by referring the patient to a specialist smoking cessation clinic.
Alcohol	In case of doubt, the CAGE scale (CAGE Assessment for Alcohol Abuse) is applied and counseling is given. If necessary, referral to advanced management centers is recommended.
Frailty Evaluation	The level of frailty is assessed by screening tests such as the walking test, the Edmonton Frailty Scale, or the CFI (Clinical Frailty Index). The level of frailty will provide insight into the need for care support or the clinical approach.
Diabetes Mellitus	Up to 70 years BMI ≥ 25 kg/m ² , scan for those with HT and hyperlipidemia.
Blood Lipids	Scan and treat individuals with a 10-year risk of CAD=10%.
Osteoporosis	Women are entitled to DEXA at least once. Risk assessment scales such as FRAX (Fracture Risk Assessment Tool) can be used.
Abdominal Aorta Aneurisma	At least one Doppler ultrasonography is performed for men 65-75 years old, who smoke.
Driving	Driving matters should be discussed with elderly people with visual, mobility or cognitive problems. If dementia occurs referral for further evaluation should be considered.
Social Support	The social network, family ties, and financial situation are regularly monitored
Elder Abuse	Routinely, abuse are screened (physical, spiritual, sexual, financial etc.)
Advanced Instructions	The discussion of future care plans and anticipations will be directed to the appropriate places for legal counseling, while mental status is stable.
Cancer Screening	Is the patient's life expectation sufficient? What are the possible side effects (complications, anxiety, costs, over diagnosis, etc.)? Does it respond to the patient's personal preferences?
Breast Cancer	If a life expectancy of 10 years is available, a screening every two years is recommended.
Colorectal Cancer	Annual stool blood tests and colonoscopy every 10 years is recommended. A life expectancy of at least five years is expected.
Cervical Cancer	At 65 years of age, PAP (Papanicolaou test) can be terminated if at least three consecutive PAPs were normal in the last 10 years. After hysterectomy PAPs are terminated.
Skin Cancer	Monthly skin inspections are recommended.

Conclusion

In summary, as the number of chronic illnesses in elderly individual increases, the number of geriatric syndromes increases. Preventive elderly assessment is a screening method that reveals unmet health needs. Preventive elderly assessment is a rapid comprehensive geriatric assessment method applied in family practice.

The preventive elderly assessment identifies interventions to improve health, as well as addressing common problems specific to elderly people. Preventive elderly assessment is an instrument that will facilitate elderly care in family health centers.

As a result, the preventive elderly assessment will give us important clues about our patients in family practice. The nature of geriatric syndromes requires care with a multidisciplinary approach and often the consultation or referral of our patients to other specializations is inevitable. However, it is certain that proactively screening patients with appropriate methods will provide important benefits to the patients. In a study performed, it was determined that there was a significant difference between the health problems declared by the patients and the pathologies emerging after the screening. (4) Nevertheless, leaving the patient's health needs to patients and their relatives will sometimes prevent timely recognition and treatment of major health problems. In this context, "Short" CGA, which is to be done in family practice, is an important preventive mission and undoubtedly increases the quality of care of elderly patients in family practice.

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