

اختلالات گفتار و زبان در سالمندی

Speech and language disorders in the Elderly

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آسیب شناس گفتار و زبان
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Healthy Ageing

What is ageing?

Aging has been defined as loss of entropy and of fractality.

- ❖ At a biological level, ageing is associated with the gradual accumulation of a wide variety of molecular and cellular damage .
- ❖ Over time, this damage leads to a gradual decrease in physiological reserves, an increased risk of many diseases, and a general decline in the capacity of the individual

What is ageing?

❖ Beyond these biological losses, shifts in roles and social positions, and the need to deal with the loss of close relationships

❖ Goals, motivational priorities and preferences also appear to change



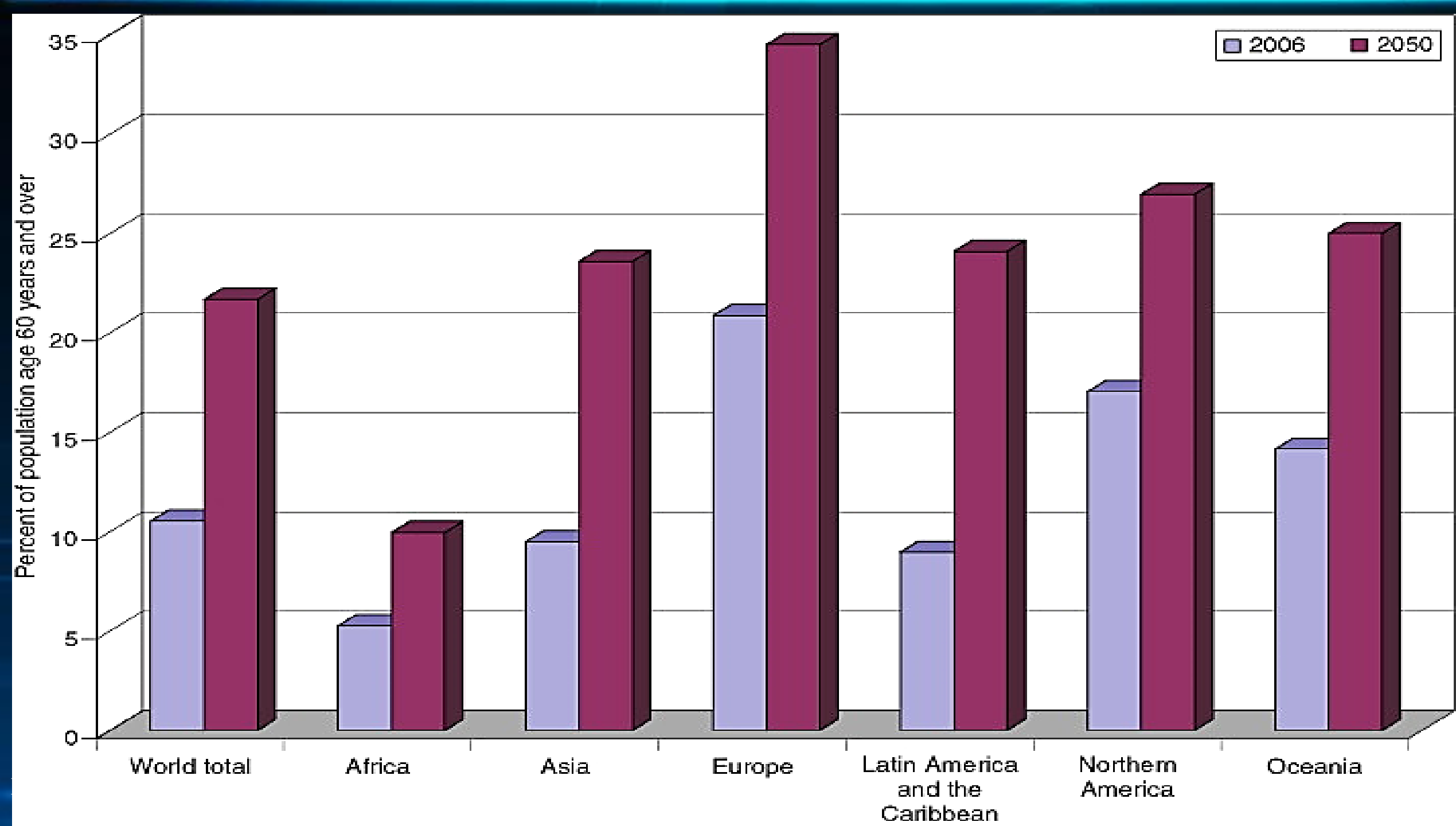
آمار در سال ۱۳۹۸

❖ جمعیت سالمند بالای ۶۰ سال کشورمان با رقم ۸ میلیون و ۲۳۱ هزار نفر، حدود ۹.۹ درصد جمعیت کشور

❖ در سالهای اخیر نرخ رشد جمعیت سالمند کشورمان ۳.۶۲ درصد

❖ در سال ۱۴۰۰ که سهم سالمندی جمعیت از مرز ۱۰ درصد عبور می کند. در سال ۱۴۲۰ از مرز ۱۹.۴ درصد و در

سال ۱۴۳۰ از مرز ۲۶.۱ درصد عبور خواهد کرد یعنی در آن زمان یک چهارم جمعیت کشور سالمند خواهند بود.



رشد جمعیت سالمندان از سال ۱۳۳۵ - ۱۳۹۵

سال	جمعیت (نفر)		متوسط رشد سالانه (درصد)	
	کل	سالمند	کل	سالمند
۱۳۳۵	۱۸۹۵۴۷۰۴	۱۱۸۳۹۸۰	-	-
۱۳۴۵	۲۵۷۸۸۷۲۲	۱۶۳۸۰۲۲	۳,۱۳	۳,۳۰
۱۳۵۵	۳۳۷۰۸۷۴۴	۱۷۷۱۶۱۴	۲,۷۱	۰,۷۹
۱۳۶۵	۴۹۴۴۵۰۱۰	۲۶۸۶۳۵۰	۳,۹۱	۴,۲۵
۱۳۷۵	۶۰۰۵۵۴۸۸	۳۹۷۸۱۲۷	۱,۹۱	۴,۰۰
۱۳۸۵	۷۰۴۹۵۷۸۲	۵۱۲۱۰۴۳	۱,۶۳	۲,۵۶
۱۳۹۵	۷۹۹۲۶۲۷۰	۷۴۱۴۰۹۱	۱,۲۶	۳,۷۷

منبع: مرکز آمار ایران سرشماری عمومی نفوس و مسکن ۹۵ - ۱۳۳۵ بر پایه نتایج تفصیلی کل کشور

Developing a public-health

In developing a public-health response to ageing, it is thus important :

- consider approaches that ameliorate the losses associated with older age
- approaches that may reinforce recovery, adaptation and psychosocial growth



Active ageing

The idea of active ageing emerged as an attempt to bring together strongly compartmentalized policy domains in a coherent way.

In 2002, the World Health Organization (WHO) released Active ageing: a policy framework.

This framework defined active ageing as “the process of optimizing opportunities for health, participation and security to enhance quality of life as people age”.

It emphasizes the need for action across multiple sectors and has the goal of ensuring that “older persons remain a resource to their families, communities and economies”.

□ The WHO policy framework identifies six key determinants of active ageing:

economic, behavioural, personal, social, health and social services, and the physical environment.

□ It recommends four components necessary

- prevent and reduce the burden of excess disabilities, chronic disease and premature mortality;
- reduce risk factors associated with major diseases and increase factors that protect health throughout the life course;
- develop a continuum of affordable, accessible, high-quality and age-friendly health and social services that address the needs and rights of people as they age;
- provide training and education to caregivers.

QUALITY OF LIFE

Language, phonation, hearing and **myofunctional oral motor skills** motor functions are intimately related to the **way people communicate**; thus, they can play their social roles, an extremely important factor as far as a population's better life quality is concerned.



WORD PRODUCTION IN OLD AGE

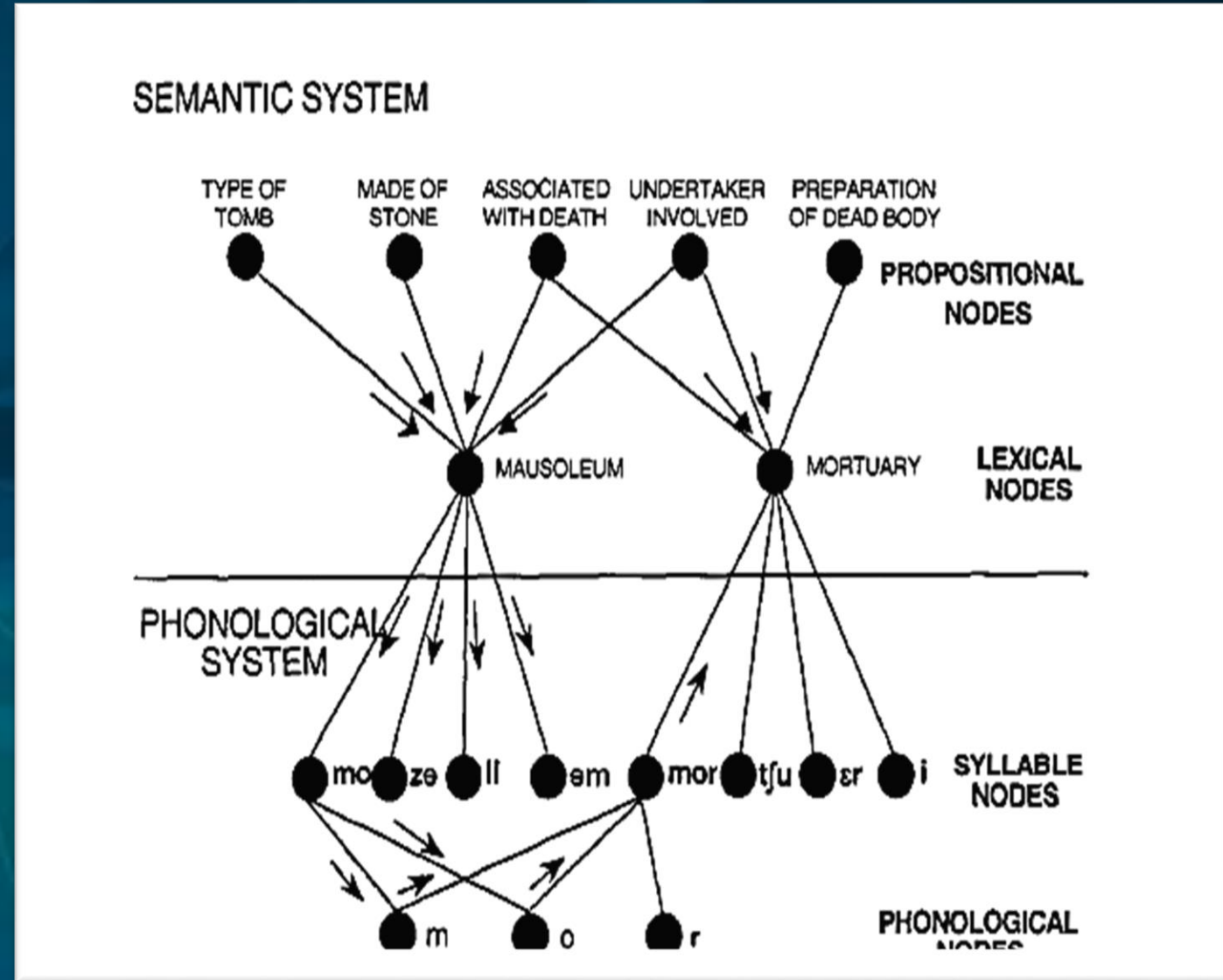
- There is considerable empirical evidence that **word production processes are impaired for older adults**, consistent with their self reports' of increased word finding failures.
- In a review of 25 studies of the effects of aging on picture naming, the majority of studies reported that **older adults produced fewer correct names** than young adults (Goulet, Ska & Kahn, 1994).

WORD PRODUCTION IN OLD AGE

Interactive activation models

Production begins with activation of conceptual units and the spread of excitation through the network, priming semantically appropriate lexical representations which prepares them for activation (retrieval).

Phonological representations corresponding to a lexical unit are primed, but temporal aspects of this priming are model-dependent.



تغییرات گفتاری و ادراکی در سالمندان

1. کاهش حجم گفتار در سالمندان

2. بروز مشکل واژه یابی در سالمندان

3. کوتاه شدن طول جملات در سالمندان

4. کاهش درک خواندن در سالمندان

5. کم شدن سرعت نوشتن در سالمندان

6. اختلال در تلفظ اصوات در سالمندان

7. کاهش ادراک شنوایی در سالمندان



Dementia



- **Dementia** is a syndrome resulting from acquired brain disease. It is characterized by a **progressive decline in memory and other cognitive domains** that, when severe enough, *interferes with daily living and independent functioning*(DSM-5).
- **Dementia is not a normal part of ageing**, but is an illness that leads to the decline of the brain and its abilities in **judgment, language, planning, and behaviour**. It can affect adults of any age, although it is more likely to occur in those above 60 years old.

Dementia



- Each year, there are **9.9 million new cases** of dementia.
- This disorder poses financial strife for both patients and our health care systems. Its economic impact is huge- the fight against dementia costs nearly **\$818 billion per year**.

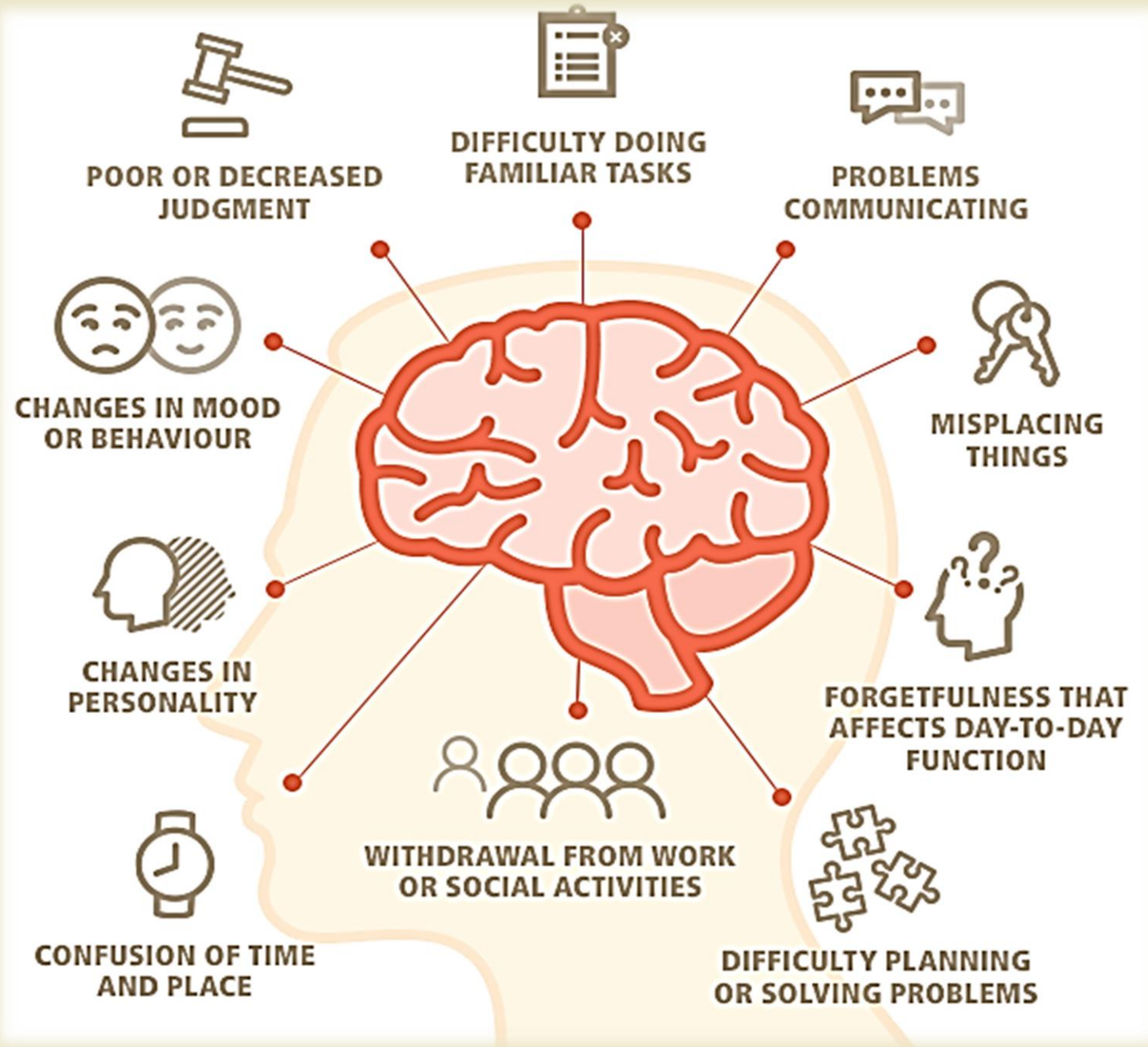
Dementia

THERE ARE **3** COMMON
MISPERCEPTIONS OF DEMENTIA

- 1** Dementia is just about forgetfulness
- 2** Dementia is part and parcel of old age
- 3** Nothing can be done to help the condition

Dementia

10 WARNING SIGNS OF DEMENTIA



Dementia

The diagnostic criteria :

- a significant decline from previous levels of performance in one or more cognitive domains, including **complex attention, executive function, learning and memory, language, perceptual motor, or social cognition** (preferably documented by standardized testing or clinical assessment);
- cognitive deficits interfere with independence in **everyday activities**;
- cognitive deficits do not occur exclusively in the context of delirium;
- cognitive deficits are not better explained by other mental disorders, such as major depressive disorder or schizophrenia (APA, 2013).

Dementia

- **The following are common neurodegenerative diseases that cause dementia:**

- Alzheimer's disease (leading cause of dementia)
- Lewy body disease
- Vascular pathology (e.g., multi-infarct dementia)
- Frontotemporal dementia (FTD)—Pick's disease (behavioral variant) and primary progressive aphasia (language variant)
- Huntington's disease
- Parkinson's disease

How Dementia Affects Communication

- Communication is **how we understand and how we are understood** by others, and the ***loss of the ability to speak or process speech correctly*** is absolutely devastating for someone with dementia.

- As Alzheimer's disease and other related dementias destroy brain cells, a significant symptom, **known as "aphasia,"** is losing the ability to speak and to understand speech.
- **Difficulty speaking is one of the first noticeable symptoms in people with dementia,** particularly those with Fronto Temporal dementia

How Dementia Affects Communication

IN EARLY STAGES

- someone **can carry on normal conversations** but will **simply forget a word** or use the wrong words.
- **Resuming a conversation** after an interruption becomes difficult.
- **losing train of thought** when speaking;
- **repeating oneself**
- Usually the person with dementia is **aware of these problems** and may try to hide or overcompensate for them

How Dementia Affects Communication

MODERATE OR MID-STAGE DEMENTIA / ALZHEIMER'S

- **Difficulty following** along with group and one-on-one **conversations;**
- losing train of thought when speaking;
- **increased difficulty finding the right words** when speaking or writing;
- **loss of vocabulary**, like proper nouns and slang terms;
- **substituting words** that sound the same or **inventing new words;**
- **difficulty following storylines** in books, TV shows, or movies;
- difficulty following **directions;**
- poor recall when telling others about **recent events;**
- **increased use of gestures** to communicate.

How Dementia Affects Communication

SEVERE OR LATE-STAGE DEMENTIA / ALZHEIMER'S

- **Inability to follow along with anything other than simple **conversations and instructions**;**
- increased loss of vocabulary, **including personal information and loved ones' names**;
- inability to follow storylines in books, TV shows, or movies;
- **tendency to talk about nothing, rambling, or babbling**

How Dementia Affects Communication

END-STAGE DEMENTIA / ALZHEIMER'S

- **Inability to speak** or otherwise respond verbally;
- **difficulty or inability to understand when spoken to;**
- **all communication may be non-verbal**

The final stage of dementia is very distressing for both patients and caretakers. Most patients have lost the ability to recognize those closest to them. They may even not recognize themselves in the mirror

Speech Therapy as a Treatment for Dementia

- Learning how to effectively communicate with others is imperative for dementia patients. But, speech therapy doesn't just treat lost speech and language function, as many think.



Speech Therapy as a Treatment for Dementia



- Dementia affects a variety of cognitive functions, including memory, attention, and visual perception.
- **maintain a level of independence for longer.**
- It helps **stimulate cognitive ability through activities** related to the underlying cognitive domain.

Speech Therapy as a Treatment for Dementia

- learn how to **compensate** for their deficits.
- They learn to **modify their environment**, which is crucial. This helps them **adapt to the ongoing cognitive changes** caused by dementia.

- **different memory regurgitation techniques** such as spaced retrieval, errorless learning.
- **external memory aids**. any dementia patients also rely on the use of memor Books and other types of external memory aids.

Speech Therapy as a Treatment for Dementia



- speech-language pathologists can also assess **how a patient eats, drinks, and swallows.**
- If there appears to be any dysfunction, they'll offer **management strategies for mealtime.**

For example: **McNeill Dysphagia Therapy Program (MDTP)**

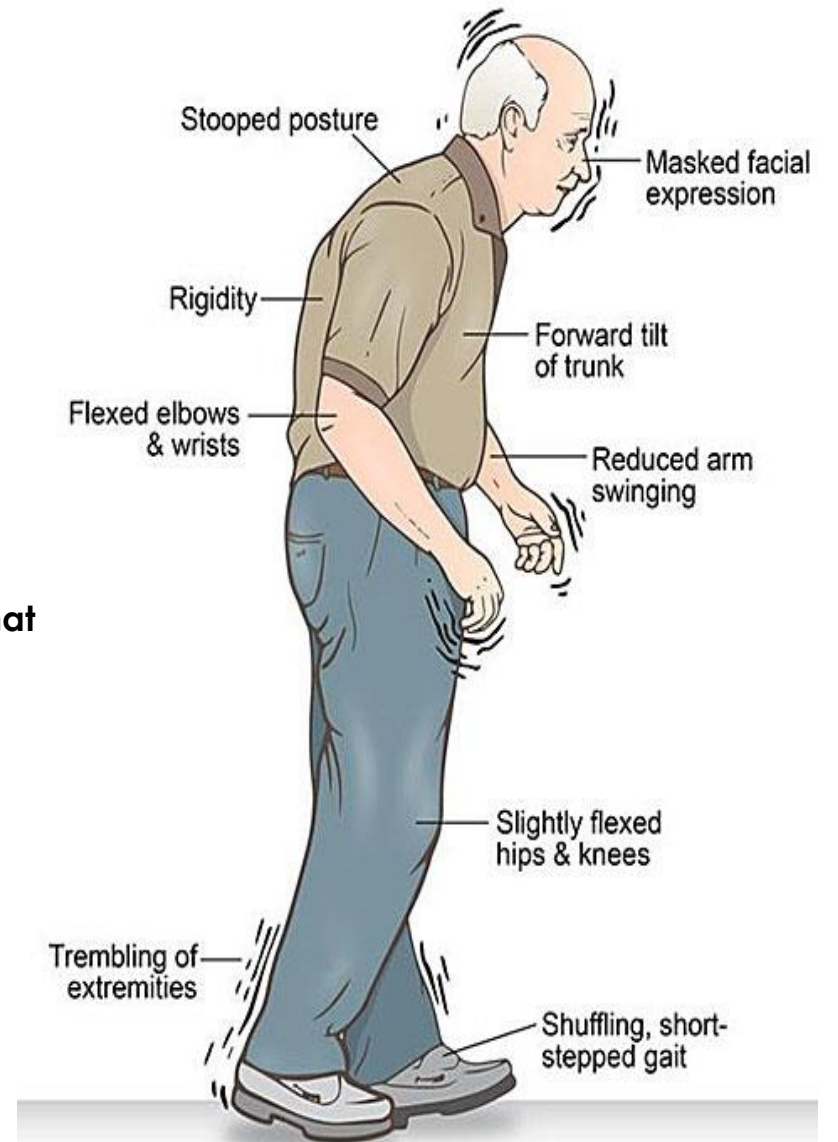
Parkinson's disease

- Parkinson's disease is a condition of the nervous system marked by **progressive damage to the brain** over a period of many years.
- Parkinson's disease **becomes commoner as age advances especially after the age of 65 years**; however even people below 40 years have been known to have Parkinson's (although very rare).
- It is seen **more commonly in men** than in women.
- Parkinson's disease is the **second most common cause of neurodegenerative diseases, first being Alzheimer's disease.**

Parkinson's disease

- **Parkinson's disease is marked by certain characteristic symptoms like:**
 - Tremors/trembling
 - Rigidity or stiffness
 - Slow movements
 - Imbalance and in-coordination
 - Freezing episodes (an inability to perform a movement, or a feeling that your feet are stuck to the ground).
 - Micrographia (small, cramped handwriting)
- Speech and swallowing problems are common in elderly subjects with Parkinson's disease (PD).
- Patients and carers frequently cite **communication difficulties** as causing the greatest disability and handicap in PD (Oxtoby 1982).

Typical appearance of Parkinson's disease



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Parkinson's disease

- around **70%** of patients with PD complained of **impairment of speech and voice**
- **41%** reported difficulty with **chewing and swallowing** (Hartelius and Svensson 1994)
- **speech problems in over 60%** of patients studied (Gibberd et al.1985).
- **Dysphagia** has been reported in **15-50%** of patients with PD,
- **Aspiration pneumonia** as a result of dysphagia is a common terminal event in late stage PD.

Parkinson's disease

	Early PD		Mid-stage PD	Advanced PD	
Stage of Parkinson's Disease	1	2	3	4	5
Severity of Symptoms	<p>MILD</p> <p>Symptoms of PD are mild and only seen on one side of the body (unilateral involvement)</p> <p>SYMPTOMS</p> <p>Tremor of one hand</p> <p>Rigidity</p> <p>Clumsy Leg</p> <p>One side of the face may be affected, impacting the expression</p>	<p>MILD</p> <p>Symptoms of PD on both sides of the body (bilateral involvement) or at the midline</p> <p>SYMPTOMS</p> <p>Loss of facial expression on both sides</p> <p>Decreased blinking</p> <p>Speech abnormalities</p> <p>Rigidity of the muscles in the trunk</p>	<p>MODERATE</p> <p>Symptoms of PD are characterized by loss of balance and slowness of movement</p> <p>SYMPTOMS</p> <p>Balance is compromised</p> <p>Inability to make the rapid, automatic and involuntary adjustments</p> <p>All other symptoms of PD are present</p>	<p>SEVERE</p> <p>Symptoms of PD are severely disabling</p> <p>SYMPTOMS</p> <p>Patients may be able to walk and stand unassisted, but they are noticeably incapacitated</p> <p>Patient is unable to live an independent life and needs assistance</p>	<p>SEVERE</p> <p>Symptoms of PD are severe and are characterized by an inability to rise</p> <p>SYMPTOMS</p> <p>Patients fall when standing or turning</p> <p>May freeze or stumble when walking</p> <p>Hallucinations or delusions.</p>

Parkinson's disease

- Areas of speech and language and dysphagic assessment:

- Facial expression
- Rate of speech
- Intonation
- Volume
- Intelligibility
- Respiration
- Swallowing
- Rhythm
- Voice, volume and respiration
- ARTICULATION
- PROSODY
- RATE OF SPEECH
- COMMUNICATION

Parkinson's disease

intensive speech therapy in PD

- A number of studies have suggested that therapy may be more effective when given **intensively** rather than in the traditional once weekly therapy **mode**(Scott and Caird 1981, 1983, 1984, Robertson and Thomson, 1984, Le Dorze et al. 1992).

the Lee Silverman Voice Treatment (LSVT) program for Parkinson disease (PD)

- **increase vocal intensity** in patients with Parkinson disease.
- The treatment focuses on a simple set of tasks that are practiced intensively, **4 sessions per week during a 4-week period**,
- resulting in **maximization of phonatory and respiratory functions**

Parkinson's disease

although 65% of patients in their study reported difficulties with speech **less than 5% had been assessed by a speech and language therapist.**

از توجه شما
سپاسگزارم

