

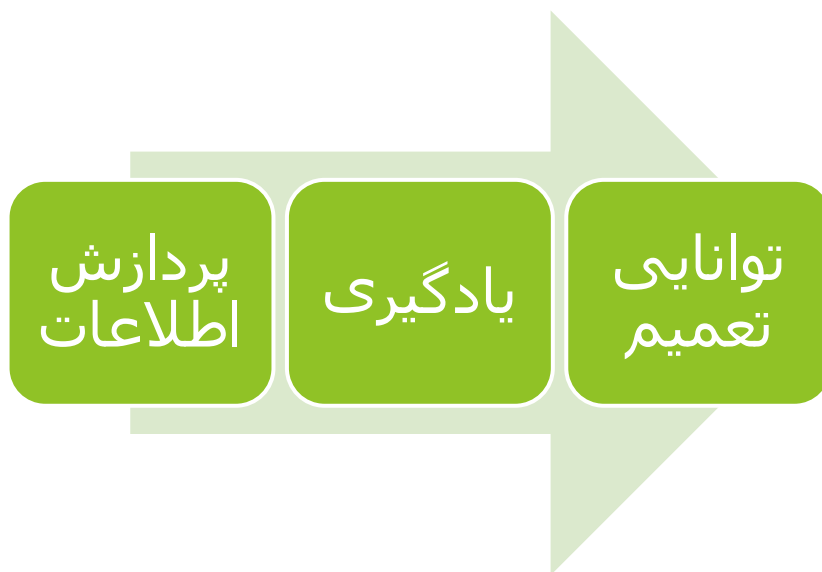
Cognitive Impairment in Elderly



Objective

- طبقه بندی انواع ظرفیت های شناختی
- تغییرات شناختی طبیعی در روند پیری
- تغییرات شناختی غیرطبیعی در روند پیری
- انواع اختلالات شناختی پاتولوژیک سالمندی
- رویکردهای درمانی کلی برای اختلالات شناختی سالمندی

Cognition



شناخت

DSM-5 Cognitive Domains

- ▶ **Complex attention** (Sustained and divided attention, processing speed)
- ▶ **Executive ability** (Planning and decision making)
- ▶ **Learning and memory** (Recall and recognition)
- ▶ **Language** (Expressive and receptive)
- ▶ **Visuoconstructional-perceptual activity** (Construction and visual perception)
- ▶ **Social cognition** (Emotions and behavioral regulation)

طبقه بندی ظرفیت های شناختی

ظرفیتهای اولیه شناخت:

memory و attention، Orientation

ظرفیتهای فوق ← پیش نیاز اساسی برای سطوح بالاتر تفکر و مهارت های فراشناختی

تواناییهای فکری سطوح بالاتر:

حل مشکل، استدلال

تواناییهای فراشناختی:

کارکردهای اجرایی و آگاهی از خود

(self-evaluation و reflecting، monitoring، planning، Initiation)

Orientation

تعریف: آگاهی و هوشیاری فرد از محیط اطراف خود در ارتباط با زمان، مکان و افراد

آگاهی ← شامل ظرفیت حافظه نیز هست

انواع عدم آگاهی (Disorientation):

عدم آگاهی از مکان ← فقدان آگاهی بیمار از نام شهر یا کشور محل حضور، اطلاعات مربوط به بیمارستان (نام بخشهای مجاور اتاق خود)

عدم آگاهی از زمان ← اشکال در کنترل گذشت زمان، مشکل در مرور داده های ساده گذشته، احتمال سردرگمی در توالی زمان رخداد حادثه (بیان ملاقات با اعضای خانواده روز گذشته)

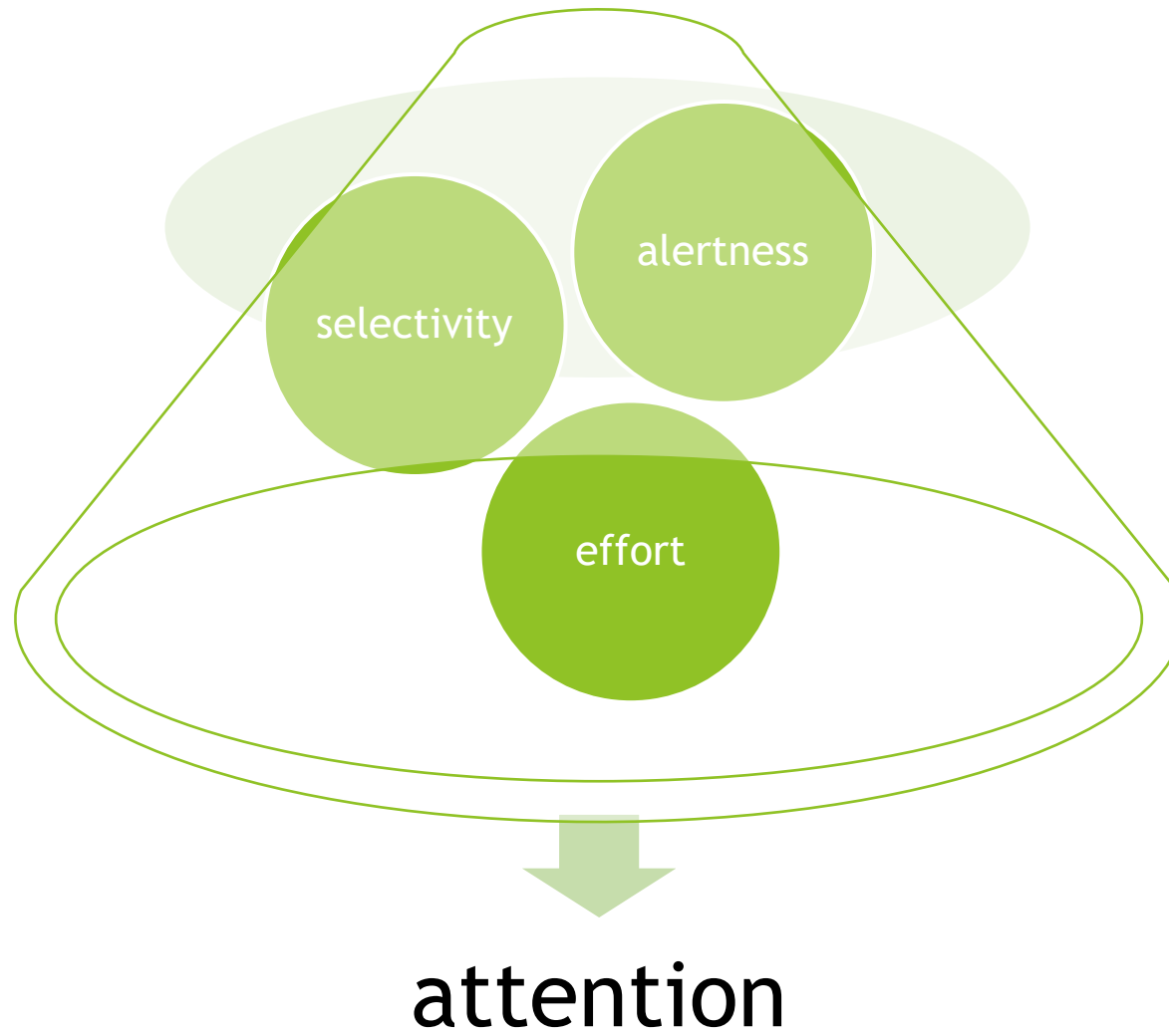
عدم آگاهی از شخص ← اختلال نسبت به هویت دیگران (بیمار فکر میکند درمانگر یکی از اعضای خانواده اش است)

عدم آگاهی جغرافیایی ← سردرگمی در خروج از دپارتمان درمان یا رفتن به رستوران (اختلال به ویژه در زمان رفتن به محیط جدید مشخص میشود)

نکته: انواع عدم آگاهی از زمان و مکان از علایم شایعتری است

Attention

توانایی حفظ هوشیاری در زمان مناسب روی موضوع مورد علاقه و انعطاف پذیری در تغییر طیف ذهنی



memory

جریان مستمری و دینامیکی از فرآیند توجه که توسط آن اطلاعات دریافت ، کدبندی ، ذخیره و بازیافت می شود و فاکتور زمان را شامل می شود

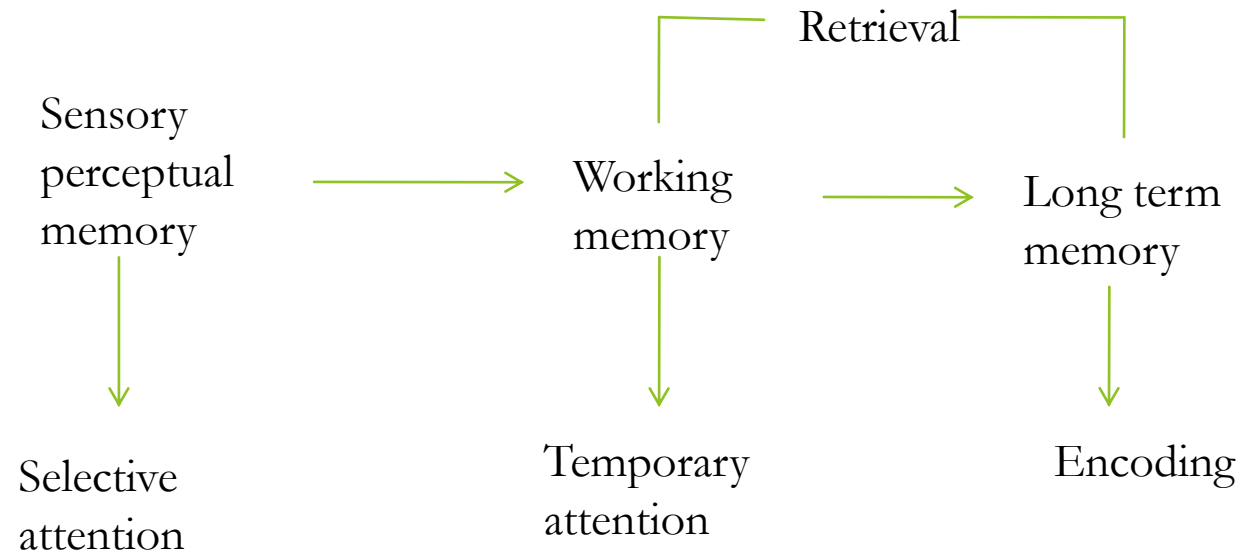
حافظه نیاز به **input** محیطی ، تغییر در **CNS** ، حفظ این تغییر و **out put** رفتاری یا اطلاعاتی دارد.

Episodic memory

Semantic memory

Procedural memory

The Memory Process



Problem solving

یک روند پیچیده است که بسیاری از مهارت های شناختی را درگیر می سازد و نیاز به توجه ، حافظه ، برنامه ریزی و سازمان دهی و توانایی قضاوت و تصمیم گیری دارد.

تواناییهای لازم برای حل مشکل:

Abstract Thinking ← فرد را قادر می سازد که بین موضوعات مختلف و رویدادها و نظریات و جزئیات یک موضوع ارتباط معنی داری برقرار کند

آسیبهای شناختی در زمینه تفکر انتزاعی ← مشکل در، تعمیم، استدلال و حل مشکل

Reasoning

تعریف: توانایی جمع بندی استنباطات یا نتایجی که از واقعیات و یا تصورات بدست آمده است.

Deductive reasoning ✓

Inductive reasoning ✓

Executive function

کارکردهای اجرایی شامل ظرفیتهایی است که فرد را قادر می سازد تا بطور موفق رفتار و کارکردهای مستقل، مورد نیاز و هدفمند را اجرا کند

اجزاء کارکردهای اجرایی:

- ✓ رفتار ارادی
- ✓ برنامه ریزی
- ✓ عمل هدفمند
- ✓ اجرای موثر

Self awareness

تعریف: توانایی فرآیند اطلاعات درباره خود و مقایسه آن با ارزیابی های قبلی از خود

- Intellectual Awareness
- Emergent Awareness
- Anticipatory Awareness

Cognitive changes related to normal aging

- ▶ benign senescent forgetfulness
- ▶ Simple forgetfulness (the “missing keys”) and delay or slowing in recalling names, dates, and events can be part of the normal process of aging. There are multiple memory processes, including **learning new information, recalling information, and recognizing familiar information.**

Memory Loss with Aging: What's normal?

Preserved memory functions

- ▶ Remote memory (ability to remember events from years ago)
- ▶ Procedural memory (performing tasks)
- ▶ Semantic memory (general knowledge)

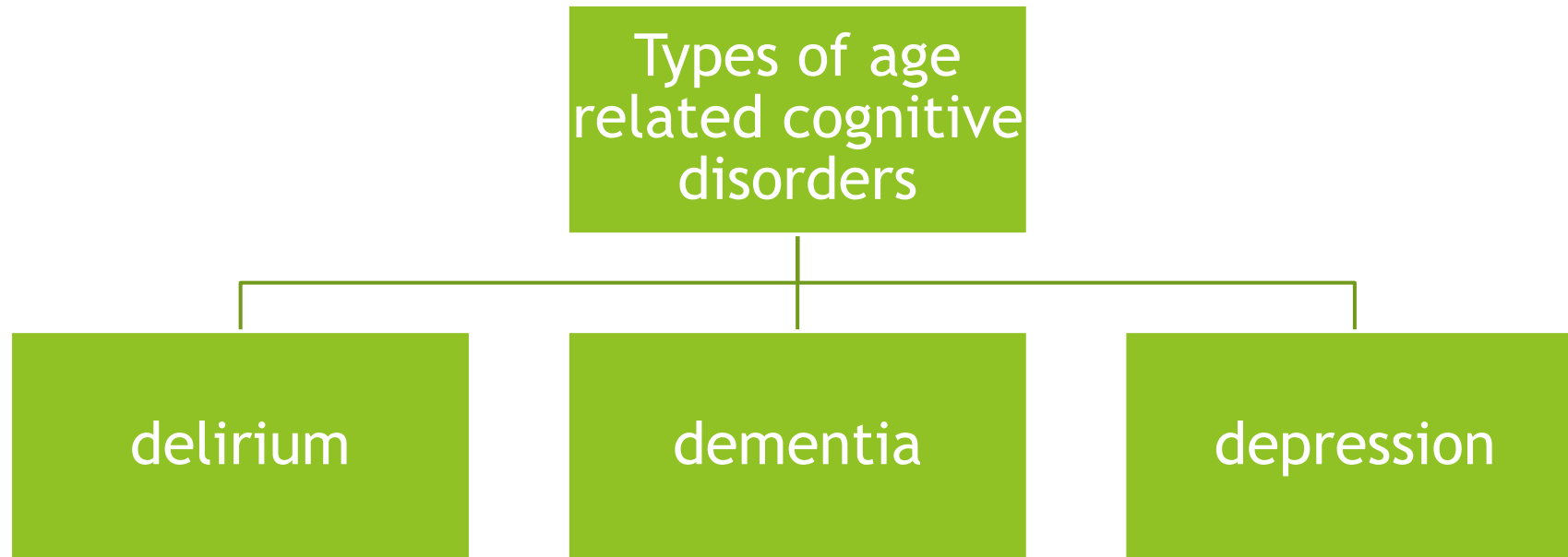
Declining memory functions

- ▶ Learning new information
- ▶ Recalling new information (takes longer to learn something new and to recall it)

Mild cognitive impairment (MCI)

- ▶ Forgets recent events, repeats the same questions and the same stories, sometimes forgets the names of close friends and family members, frequently forgets appointments or planned events, forgets conversations, misplaces items often.
- ▶ Has trouble coming up with the desired words. Has difficulty understanding written or verbal (spoken to) information.
- ▶ Loses focus. Is easily distracted. Needs to write reminders to do things or else will forget.
- ▶ May struggle, but **can complete complex tasks** such as paying bills, taking medications, shopping, cooking, household cleaning, driving.
- ▶ Has many important memory impairments but **can still function independently.**

Most Common Cognitive Problems Related to Aging



Delirium

- ▶ Delirium is often unrecognized
- ▶ Delirium might be the only indication of a life threatening condition
- ▶ Extremely important to identify

Depression

- ▶ Most common psychiatric condition affecting older adults
- ▶ “Common cold” of psychiatry
- ▶ Often under-diagnosed and under-treated

Cognitive problems in depression

- ▶ Slowed thinking
- ▶ Inability to focus or concentrate
- ▶ Indecisive
- ▶ Feels confused and bewildered
- ▶ Ruminations about insignificant problems
- ▶ Negativity

Alzheimer's Disease

A chronic, progressive, irreversible, neurological disorder affecting memory, cognition, ability to function, personality, language, and behavior

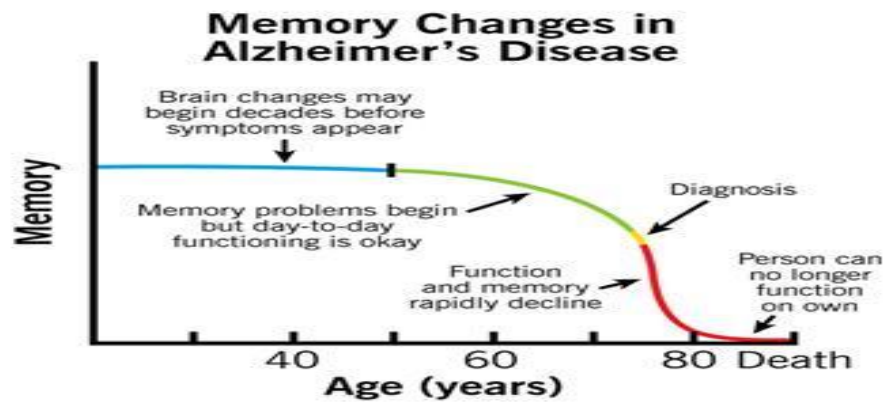
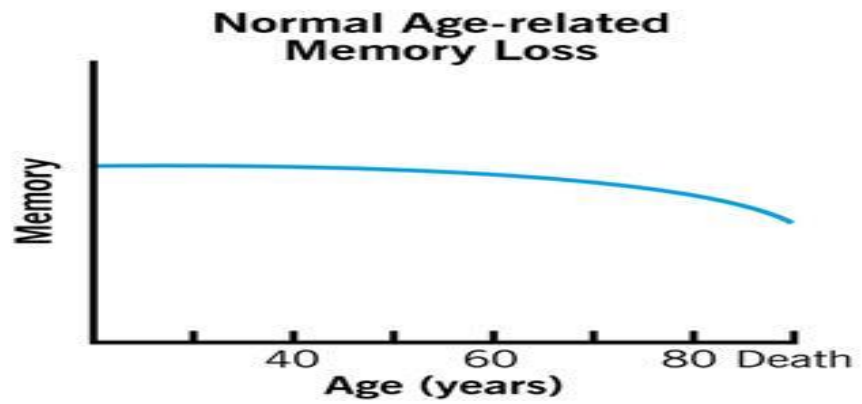


Brain Functions Affected

- ▶ Memory
- ▶ Judgment and decision making
- ▶ Abstract thinking
- ▶ Inhibition control
- ▶ Organizational skills
- ▶ Motivation and attention
- ▶ Personality stability
- ▶ Emotions
- ▶ Language
- ▶ Praxis
- ▶ Visual spatial skills

Memory

- ▶ Difficulty learning new things
- ▶ Misplaces items
- ▶ Forgets to tend to appliances
- ▶ Trouble following recipes/directions
- ▶ Can't remember the date/time
- ▶ Trouble recalling recent events or conversations
- ▶ Forgets to pay bills or repays
- ▶ Trouble following plot in stories or on TV



Interventions for Memory Loss (Early)

- ▶ Use calendars, notes, reminders
- ▶ Write important information
- ▶ Repeat explanations or directions
- ▶ Try to limit distractions and simplify
- ▶ One specific location for keys, glasses, important items
- ▶ Supervise medications, finances, and for safety needs

Interventions for Memory Loss (Later)

- ▶ Provide reminder cues in conversations or in the environment
- ▶ Try to endure repetitiveness
- ▶ Help locate missing items
- ▶ Monitor appetite and weight
- ▶ Don't force reality orientation
- ▶ Discuss positive memories from the past

Judgment and Decision Making

- ▶ Loss of sense of risk and danger
- ▶ Financial vulnerability
- ▶ Difficulty problem-solving
- ▶ May appear more dependent and indecisive
- ▶ May trust strangers or be “inappropriately familiar”
- ▶ Unable to prioritize activities

Interventions for Impaired Judgment

- ▶ Identify surrogate decision maker/s
- ▶ Avoid extended logical explanations
- ▶ Set limits on unrealistic demands
- ▶ Anticipate safety needs and safety proof surroundings
- ▶ Avoid situations where failure is likely
- ▶ Use distraction rather than confrontation
- ▶ Maintain the person's integrity

Abstract Thinking

- ▶ Takes more time to understand
- ▶ Difficulty with time relationships
- ▶ Trouble with calculations and money
- ▶ Unable to “figure out” complex problems
- ▶ Poor interpretation of social cues
- ▶ Change in sense of humor

Interventions for Concrete Thinking

- ▶ Allow time to process verbal communication
- ▶ Be alert for misunderstandings
- ▶ Interpret what is occurring in the environment
- ▶ Help identify the function of objects
- ▶ Use discretion with humor

Inhibition Control

- ▶ More impulsive - desires immediate gratification
- ▶ Frustrated easily - quick to react
- ▶ May make hurtful/insensitive comments
- ▶ May have inappropriate social behavior
- ▶ Possibility for sexual disinhibition

Interventions for Disinhibition

- ▶ Anticipate needs and possible overreaction
- ▶ Maintain a calm environment
- ▶ Don't take insensitive comments personally
- ▶ Assist in covering social “mistakes”

Organizational Skills

- ▶ Unable to plan, organize, sequence activities
- ▶ Don't remember "how" to get started on tasks
- ▶ May appear apathetic or disinterested
- ▶ Trouble following directions

Interventions for Disorganization

- ▶ Simplify the environment
- ▶ Continue with familiar routine
- ▶ Provide structured activities, but be flexible
- ▶ Break tasks into individual steps
- ▶ Give one-step directions
- ▶ Inconspicuously give cues
- ▶ Avoid sounding controlling or bossy
- ▶ If resistive, stop and try again later

Motivation and Attention

- ▶ Problems with initiation
- ▶ Can't switch mental gears easily
- ▶ Trouble completing tasks
- ▶ Loss of mental flexibility
- ▶ Difficulty maintaining effortful activities
- ▶ Distractibility

Interventions to Enhance Attention

- ▶ Eliminate competing stimuli in the environment
- ▶ Provide cues and prompts
- ▶ Plan activities that do not require sustained periods of concentration
- ▶ Attempt distraction if the person is “stuck”
- ▶ Plan frequent rest periods

Overview of Executive Dysfunction

Problems with:

- ▶ Stopping
- ▶ Starting
- ▶ Switching
- ▶ Socialization
- ▶ Planning
- ▶ Judgment

Stopping

- ▶ Disinhibited/impulsive
- ▶ Blurt out socially inappropriate remarks
- ▶ Frontal release signs (grasp reflex, palmomental reflex)
- ▶ Compulsive eating
- ▶ Unable to resist impulse to use or touch objects

Starting

- ▶ Lack of motivation
- ▶ Unable to initiate
- ▶ Inability to maintain effortful behavior
- ▶ Apathy

Switching

- ▶ Perseveration
- ▶ Lack of mental flexibility
- ▶ Self management difficulty to make any change
- ▶ Improper emotional responses

Socialization

- ▶ Poor interpretation of social cues
- ▶ Difficulties secondary to lack of motivation, personality changes, and uninhibited behavior
- ▶ Insensitive to others
- ▶ Unable to “read” social signals from others

Planning

- ▶ Inability of volition
- ▶ Cannot multitask
- ▶ Non compliance because can't plan
- ▶ “Stubborn” - “Uncooperative”

Judgment

- ▶ Unable to anticipate consequences
- ▶ Can't prioritize
- ▶ Lack empathy
- ▶ Little or no insight

Thank you for your
attention.