

Final 6

psychology sheet

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Cognitive disorders

Delirium, Dementia, Amnesia

Introduction

Cognitive disorders are type of **brain disorders** affecting a **higher order brain functions** such as **cognition, perception, memory, reasoning, learning, creativity, judgment and decision making.**

Cognition : Studying mental processes and how they relate to perception, attention, memory, thoughts, judgments and decision making.

Cognitive disorders : **higher brain functions**, مشكلة بال

occur in older populations

(with aging process)

- التعامل مع مرضى ال (cognitive disorders (dementia, delusion & amnesia) أصعب بكثير من التعامل مع مرضى الفصام , لأنه استيعابهم جدا أبطأ و استجاباتهم بطيئة .

* Delirium , dementia, and amnesia are common problems in the **acute care setting** that make it a challenge for the bedside psychiatrist to give the care needed to these patients.

* Caring for patients with cognitive disorders can be **challenging and physically and emotionally exhausting.**

* The **inability to diagnose** dementia or delirium appropriately can **increase morbidity and mortality** in this patient population.

*It's important to understand dementia and delirium in detail, as well as having a firm grasp on diagnosis, causes, and treatment options.

Definition

Cognitive disorders defined as a dysfunctions or deteriorations of brain functioning

Etiology

Cognitive disorders may occurs from temporary or permanent changes in the function of the brain as a result of genetic predisposition, infections, toxins, metabolic disorders, or injury.

Dementia

Dementia is defined as a loss of previous level of cognition, executives, and memory function in a state of full alertness

Occurs in fully oriented (conscious) , in level of conscious (full alert)

Incidence and prevalence

Dementia is more common among individuals **60 years of age and older**, and the incidence rises rapidly for clients **80 years of age and older**.

*World health organization (2006) report estimated that approximately 22 million individuals world wide are affected by **Alzheimer disease** and **Vascular dementias** and predicted that approximately 80 million people will be affected by 2022 .

Etiology

ما فيه سبب معين كل Case لها سبب

(viral, genetic, neuro)

- تنتشر ال **dementia** اكثر اشي بالمجتمعات الغربية لأنها مجتمعات (مُعَمَّرَة) على عكس مجتمعنا ينتشر فيه بنسبة أقل لأنه مجتمع (فتي).

Signs and symptoms

The essential feature of a dementia is the development of **multiple cognitive deficits** that include **memory impairment** and **at least one** of the following cognitive disturbances:

Aphasia —————> بتكون مشكلة بال **speech** و بصير المريض **more aggressive** يسبب و يشتم

Apraxia —————> (حركته بطيئة) **disorder in movement**

Agnosia —————> عنده مشكلة بال **الإحساس** و التعرف على الشغلات يعني لما يمسك خبز ما بميز إنه يلي بين إيديه هو خبز

يعني مثلاً لما أحكيه روح توضاً —————> or a **disturbance in executive functioning** يعرف إنه الوضوء للصلاة لكن مو عارف الخطوات و لما أعلمه على خطوات الوضوء (غسل اليدين , ...) و يطبقهم و يرجع اله مرة ثانية و احكيه توضاً ما رح يعرف (بنسى)...

(APA, 2004).

*Dementia may be accompanied by symptoms of delirium, delusions, depressed mood, hallucinations or other perceptual problems, behavior disorders, or communication problems

عند إعطاء مريض ال **Dementia** أي **Medication** ما رح يشفى منه بشكل نهائي هو فقط للتخفيف من أعراضه لفترة مؤقتة (لكن مستحيل يرجع زي ما كان من اول و زمان)
(irreversible) (untreatable)

Transient dementia : ممكن يرجع حسب حالته

Types of dementia:

Dementia can be classified as a **primary or secondary**.

- **Primary dementias** are those , such as Alzheimer's disease, in which the dementia itself is the major signs of some organic brain disease not directly related to other organic illness.
(المرض نفسه مباشرة)

- **Secondary dementias** are caused by or related to another disease or condition, such as HIV disease.
بكون ناتج من أسباب معينة (ثانوي) مثل **Toxins , HIV**

Physiology of Dementia:

Dementia are usually considered **chronic, progressive** (كل ما مشينا لقدام بسوء) and **irreversible** disorder. (الوضع) حالته تتدهور أكثر)

additional changes include **cortical atrophy, increased ventricular dilatation** and **decreased level of acetylcholine** (memory loss), **norepinephrin**, and other neurotransmitters.

- بالعادة مرضى ال **dementia** بكون عندهم مشاكل بال **hygiene** يعني ممكن يصير معهم تبول لا إرادي .

Diagnostic criteria for dementia according to DSM-IV :

A. The development of multiple cognitive deficits manifested by both
* كيف أحكم على شخص إنه مصاب ب **dementia** ؟

- لازم يكون معه العرض نقطة رقم (1)

- و أي عرض من أعراض النقطة رقم (2)

- memory impairment (impaired ability to learn new information or to recall previously learned information)
- one (or more) of the following cognitive disturbances:
 - **aphasia** (language disturbance)
 - **apraxia** (impaired ability to carry out motor activities despite intact motor function)
 - **agnosia** (failure to recognize or identify objects despite intact sensory function)
 - **disturbance in executive functioning** (i.e., planning, organizing, sequencing, abstracting)

- ممكن يحصل مع مريض ال **dementia** مشكلة بال **memory (short or long)** ولكن المشكلة بتكون إذا صارت بال **short memory** لأنه رح يفقد القدرة على تعلم أي شيء جديد .

Delirium

What is delirium?

Occurs in unconscious (not fully conscious)

Unconscious مثل لما المريض يكون طالع من غرفة العمليات و بعد الإنعاش و يصير يحكي شغلات من (لأنه لو كان واعي ما رح يحكيها) (slippery of tongues)

- Delirium is a transient mental disorder, characterized by impaired cognitive function and reduced ability to focus, sustain or shift attention.
- The disturbance develops over a short period of time (usually over hours or days), and generally fluctuates during the course of the day
- It is associated with a disturbance in the sleep-wake cycle and an increase or decrease in psychomotor activity. (Lipowski, 1990)
- Although delirium usually only lasts for a few days, it may persist for weeks or even months.

shift attention : يكون المريض صعب ينتقل من موضوع لموضوع (بظل يرجع لنفس الموضوع)

- و ممكن يصير معهم **hallucination** او **mumbling** (يعني يتمم بكلمات غير مفهومة)
- قد يعاني مرضى ال **delirium** من مشاكل بال **sleep cycle process**

Hypnagogic ← **hypnopompic**

What are the signs and symptoms of delirium?

- Difficulty focusing, sustaining or shifting attention. (↓ **concentration**)
- Memory impairment, most commonly impaired **recent** memory.
- Disturbance of the sleep-wake cycle, for example drowsy during the day and agitated or restless at night.
- Speech or language disturbances, for example rambling speech
- Disorientation to place or time (**PTT**)
- Disturbance in psychomotor behavior, for example agitation with increased psychomotor
- Behavior and sluggishness with decreased psychomotor behavior

- Emotional disturbances such as mood swings that may change over the course of a day and
- Misinterpretations, illusions or hallucinations such as seeing, hearing or feeling things that are not there.

What are the causes of delirium?

Delirium has a large number of possible causes. It may result from a general medical condition, substance use or withdrawal (including medications), or can be due to multiple etiologies. In older hospitalized patients, the latter is often the case.

However, there is also a **small proportion** of delirium cases in which the cause cannot be identified.

Conditions & Disorders that are commonly associated with delirium, including:

- **General illnesses and infections** such as pneumonia or urinary tract infection (UTI)
- Disorders of the **central nervous system** such as a stroke or subdural haematoma
- Disorders of the **heart or lungs** such as heart or respiratory failure
- **Medication use**
- Disorders of **metabolism** such as kidney failure or dehydration.

What is the epidemiology?

Around 10-15% of **older people** admitted to hospital are delirious at the time of admission and a further 5%-40% are estimated to develop delirium while in hospital

Types of delirium:

Hyperactive delirium

- Physically/verbally aggressive (لسانه بذىء), agitated,
- wanders
- Physically hyperactive
- Very alert to stimuli (بتحسس من الضوء حتى لو كان خافت و بسمع الصوت الواطى كأنه **hyperacusis** , عالي كثير)
- Labile mood : مزاجه متقلب (**mood swings**)

Hypoactive delirium

- Lethargic, somnolent, withdrawn, decreased response to stimuli
- Physically hypoactive
- Clouded (↓ concentration), inattentive, slow to respond
- unarousable or requires aggressive stimuli to arouse

Mixed delirium

- Evidence of both hyperactive and hypoactive behavior

Risk Factors:

العوامل يلي بتسهل إنه الشخص يدخل بال **Delirium** من وراها

- Pre-existing cognitive impairment such as dementia.
- Visual impairment.
- Alcohol related health concerns
- Age 70 years or more.
- A previous history of delirium
- Patients with comorbidities such as chronic obstructive pulmonary disease, hypertension, and stroke.

Amnesia

Definition:

The inability to retain or recall past experience.

- الخطوات يلي بتمشي فيها ال memory :
Registration -1
Retention -2
recall -3 ← المشكلة فيها تحدث

Characteristics of Amnesia

Amnestic disorders are characterized by inability to learn new information (short term memory deficit), and inability to recall previously learned information (long term memory deficit), apathy, lack of initiative and emotional blindness.

Etiology:

- Amnestic disorder due to general medical condition:

that include head trauma , cerebrovascular disease, cerebral neoplastic disease, cerebral anoxia, interruptions to cerebral blood flow, hippocampus changes , herpes simplex encephalitis, poorly controlled insulin-dependent diabetes,

- Substance induced persisting amnestic disorder :
DSM-IV identifies the following substances with which amnestic can be associated.
 - a- Alcohol (Korsakoff's syndrome) (Wernicke's encephalopathy due to thiamine deficiency)
 - b- Medications
 - c- Sedatives, hypnotics and anxiolytics
 - d- Anticonvulsant
 - e- Intrathecal Methotrexate (chemotherapy)

- ممكن تكون مع emotional trauma

- **Toxins**
Lead, mercury, carbon monoxide, organophosphate insecticides, industrial solvents.

Types of Amnesia:

- **Retrograde amnesia**
is the inability to remember events that occurred before the accident
- **Anterograde amnesia**
is the inability to remember events that occur after the accident or inability to form new memory

According to period, amnesia is divided to:

- **Transient global amnesia**
مؤقت (إذا راح السبب بتروح الأعراض) توخذ أقل من شهر
This type of amnesia has no consistently identifiable cause, but researchers have suggested that migraines or transient ischemic attacks may be the trigger. This type last for 1 month or less.
- **chronic amnesia (irreversible)**
بتوخذ فترة أكثر من شهر
This type memory impairment last for more than one month.

CVA (cerebrovascular accident)	TIA (transient ischemic attack)
جلطة بالدماغ بسبب نزيف أدى الى موت العضو بالكامل (فيه إشي تأثر و مات)	جلطة أدت الى إغلاق و نقص تروية فقط للعضو و تأثر (لكن ما مات)
↓	↓
MI (myocardial infarction)	Angina
جلطة	ذبحة صدرية (جلطة عابرة)
Death in cells	Necrosis (نقص تروية) no death in cells حدوث تدقيق

Signs and symptoms:

- Memory loss or impairment (short and long term memory)
- Confusion
- Disorientation
- Attentional deficits
- Confabulation (filling gaps in memory with imaginary events) may be noted during the early stages of amnesic disorder but usually disappears with time.
- lack of insight (انعدام البصيرة)
if the patient recognized that he is mentally ill or not
هل هو مدرك انه عنده مشكلة او لا (يعني هو أصلا بنسى فبنسى انه فيه عنده مشكلة)
(Partial or completely) ممكن تكون

Difference between Amnesia, Dementia and Delirium:

Amnesic disorder is diagnosed when there is severe memory impairment without other significant cognitive impairments (eg, aphasia, apraxia, agnosia, or disturbances in executive functioning) or impaired consciousness, no other disturbances of higher cortical functions which would indicate a diagnosis of either delirium or dementia.

Amnesia also occurs (onset) suddenly like delirium while **dementia** has gradual onset.

Delirium is reversible while **dementia** is irreversible, on the other hand amnesia is depend on cause.

• ملخص لأهم الفروقات :

Dementia	Delirium	Amnesia
In conscious	In unconscious	-----
Gradually	Sudden	Sudden
Irreversible or transient dementia : ممکن يرجع حسب حالته	reversible	Reversible or irreversible
progressive	-----	Gradually or progressive
Chronic	Acute	Chronic

إنّما الإنسان أثر، فانظر ما أنت تاركٌ خلفك □
فإنّهم أثراً طيباً يبقى وعلماً نافِعاً لا يفنى

