



WHAT IS THE ROLE OF NEUROPSYCHOLOGICAL EXAMINATION IN DIAGNOSING PATIENTS WITH FUNCTIONAL DISORDERS

ANNA BARCZAK

IMDIK, PAN

CSK MSWIA

OŚRODEK PSYCHOTERAPII ROZDROŻA

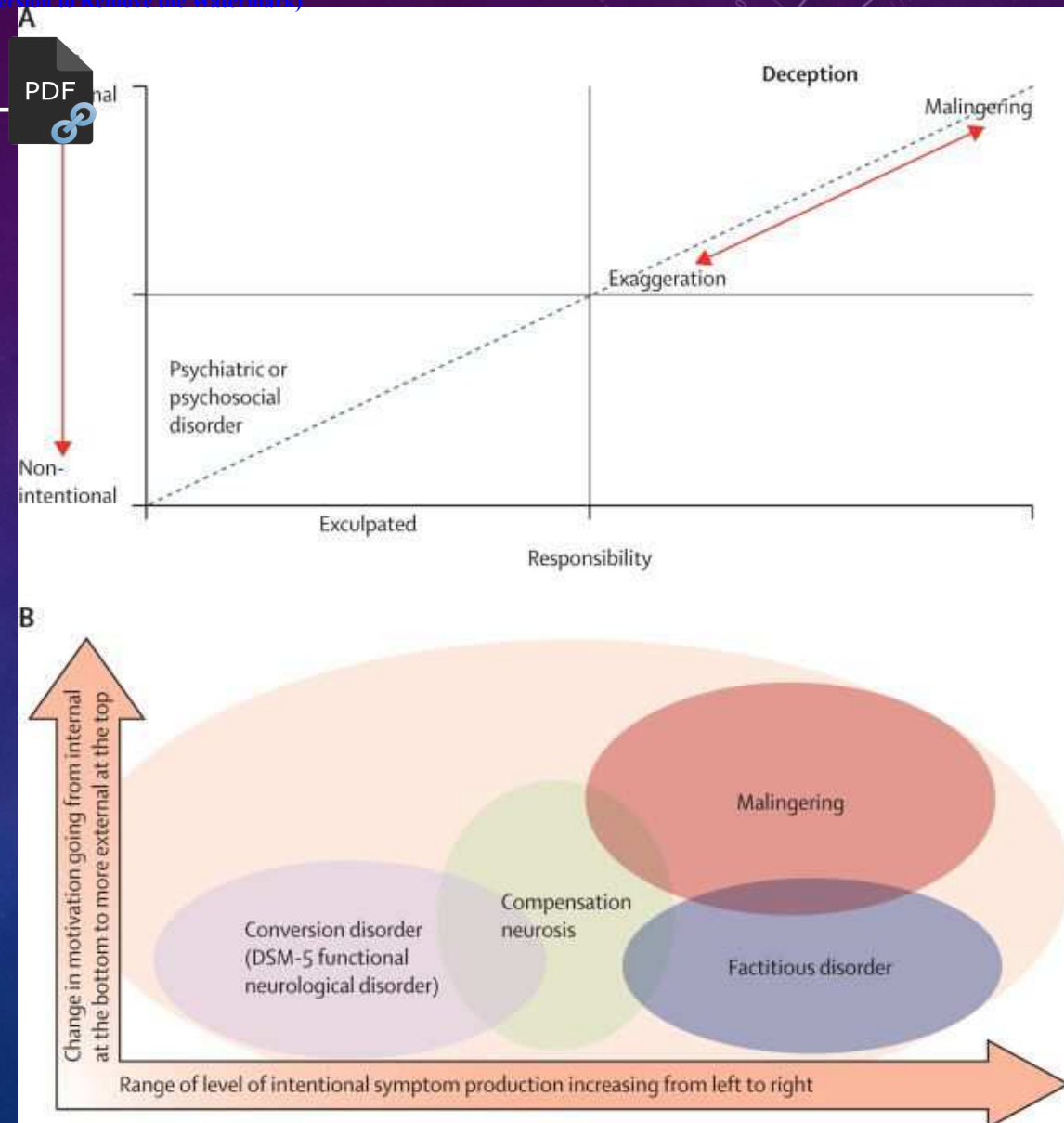
WARSZAWA

DSM-5 CRITERIA FOR FUNCTIONAL NEUROLOGICAL DISORDER

1. One or more symptoms of altered voluntary motor or sensory function.
2. Clinical findings provide evidence of incompatibility between the symptom and recognised neurological or medical conditions.
3. The symptom or deficit is not better explained by another medical or mental disorder.
4. The symptom or deficit causes clinically significant distress or impairment in social, occupational, or other important areas of functioning or warrants medical evaluation.

FUNCTIONAL NEUROLOGICAL DISORDERS

- Malingering
- Factitious disorder
- Faingning
- Psychogenic
- Conversion disorder





FND INTEGRATED TEAM

- made up of neurologists, psychiatrists, **clinical psychologists specialising in neuropsychology** and physiotherapists who have expertise in this area.
- some patients may benefit from working with a physiotherapist to help them walk better;
- some people may benefit from working with a psychoterapeutist who can help them cope with the difficulties they are having and help them recover.



NEUROPSYCHOLOGICAL EXAMINATION

- A part of medical diagnosis
- Brain – behavior relationship is the main source of knowledge
- Based on data from observation, interview and the actual testing
- Diagnosis is not a simple test score, but an interpretation of all obtained information



A ROLE OF NEUROPSYCHOLOGY IN DIAGNOSING PATIENTS WITH FUNCTIONAL DISORDERS

- Clinical neuropsychology plays a role in identifying and flagging up inconsistent or dubious symptoms.
- Helps to exclude the actual clinical population (more detailed testing than provided by screening tools)
- Assessment usually includes review of the medical records, a semi-structured clinical interview with the individual and ideally a third party informant, such as a family member or a close friend.



A ROLE OF NEUROPSYCHOLOGY IN DIAGNOSING PATIENTS WITH FUNCTIONAL DISORDERS

- Additionally psychometric tests of emotional, personality and cognitive functioning can be administered to cover all the cognitive domains (i.e. intellectual functioning, attention, memory, visuo-spatial skills and executive functioning).
- If the individual to be assessed is a reliable historian and if there is no intentional (or not intentional) symptom exaggeration or cognitive underperformance both the interview and the test administration can yield accurate information.



A ROLE OF NEUROPSYCHOLOGY IN DIAGNOSING PATIENTS WITH FUNCTIONAL DISORDERS

- Symptom validity testing contributes to identifying inconsistent presentations (i.e. identify a presentation that is not thought to be consistent with what is known or expected of a certain condition).
- It is then down to detailed clinical assessment to determine whether a pattern on test results is due to malingering, somatisation or the controversial factitious disorder, or whether perhaps simply the results obtained are not a true representation of someone's cognitive skills.

Table 1 Summary of main findings per condition and domain

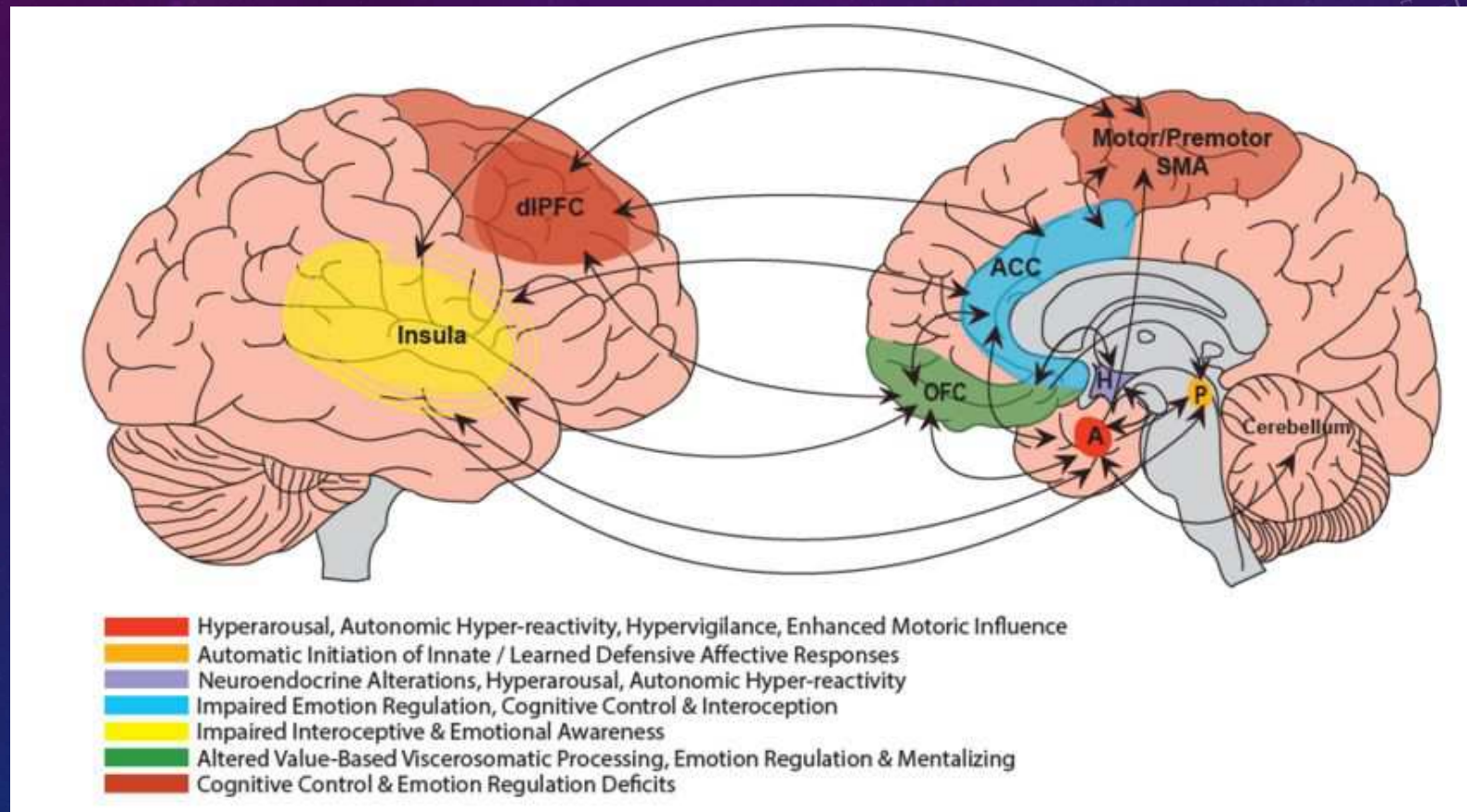
Parameter	Functional cognitive disorder***	Fibromyalgia	Chronic fatigue syndrome	Functional neurological disorder†
Cognitive symptoms	Memory Language (word finding)	Attention/concentration Memory Language (word finding)	Attention/concentration Memory Language (word finding) Reasoning	Attention/concentration Memory Language (word finding)
Objective neuropsychological deficits				
Memory		Vulnerability to distraction Explicit worse than implicit memory*	Impaired registration and consolidation* Working memory disruption by abnormal attention/information processing*	Working memory**
Attention/concentration		Selective/divided attention* Bias towards emotionally negative information**	Divided attention Executive function of attention** Bias towards threatening stimuli*	Attention** Attentional bias towards social threatening stimuli**
Executive functions		Cognitive inhibition**		
Information processing			Slow	Slow**
Language		Verbal fluency*	Verbal fluency**	
Social cognition		Alexithymia** Recognising others' emotions*		Alexithymia* Affect expression and recognition**
Consistency on repeat assessment			Increased performance variability	
Factors related with neuropsychological deficits		Pain*	Fatigue**	Psychopathology**
Discrepancies between symptoms and objective deficits	Symptoms>objective deficits	Symptoms>objective deficits	Symptoms>objective deficits	Symptoms>objective deficits**
Performance validity/effort testing	A minority fail validity testing	Only a minority fail validity testing*	Rare failures on validity testing*	Overall, only a minority fail validity testing
Neurobiology of cognitive impairment	No structural damage	No structural damage* Dysfunction of a fronto-parieto-temporal network involved in attention, memory and executive functions, as well in emotion and pain processing	No structural damage* Dysfunction of the working memory network	No structural damage
Others	Memory perfectionism Overinterpretation of attentional lapses Heightened self-monitoring for cognitive errors Low memory self-efficacy		Heightened perception of effort	



WHEN THE NEUROPSYCHOLOGICAL DIAGNOSIS DOES NOT MEET DOCTOR'S EXPECTATION

- Is not a magician – there is no magic test
- Is not a Gipsy with crystal ball, although is a kind of „mind reader”
- Is not a confessor – patients will not tell all their sins
- Is not a sprinter – it takes time to gain all information
- Is not omniscient – academic knowlegde and professional experience
- Is not a hypnotist - does not use mental tricks

SCHEMATIC REPRESENTATION OF KEY REGIONAL ABNORMALITIES AND EMERGING FUNCTIONAL CONNECTIVITY ALTERATIONS IN FND DURING EMOTIONAL PROCESSING



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WHY IT IS DIFFICULT TO DIAGNOSE FND ?

- Unspecific population
- The lack of apparent cognitive deficits
- Profound impact of emotions on patients functioning (during testing too)
- Symptoms typical for FND are also common in other diseases
- In most cases - there is no objective confirmation of patients problems
- Misdiagnosis or underdiagnosis as a common fear = expensive, time and effort consuming, still leading to no conclusion or diagnosis

WHAT IF THERE IS NO NEUROPSYCHOLOGIST ?

Patients who simulate symptoms account for some 5% of hospital presentations in the FND cohort.

The main clues in recognizing malingering or factitious disorders are:

- Inconsistency in the history on different hospital admission (between patient, doctors or relatives).
- An admission from the patient who has been dishonest in the past.
- Deliberate avoidance of tests.
- A direct confession.
- Evidence of gross inconsistency between proclaimed symptoms and covert surveillance (a patient with bilateral lower limb weakness seen running).
- Stimulation of symptoms that mimic disease very closely (displaying head aversion and tonic clonic movements in a dissociative attack) or mimicking the symptoms of other patients



SUBJECTIVE COGNITIVE DECLINE – MEMORY FND

- Subjective decline in cognition is unspecific.
- It is related to numerous conditions such as normal aging, personality traits, psychiatric conditions, neurologic and medical disorders, substance use, and medication.
- It may also be affected by the individual cultural background.
- Refinement of knowledge about the characteristics of subjective decline at the very early (preclinical) stage of any disease is needed.



TERM OF SUBJECTIVE COGNITIVE DECLINE

- Subjective refers to the self-perception of cognitive performance.
- It is conceptually independent of performance on a cognitive test.
- No “validation” of the subjective experience of cognitive capability by means of cognitive testing is required.
- The performance on a cognitive test is the objective level of cognitive functioning at a particular point in time.
- The concurrent and longitudinal relationship between subjective and objective cognitive performance is a research topic of major interest.

Subjective cognitive decline (SCD):
indicating compensation and subtle
decline in cognitive performance

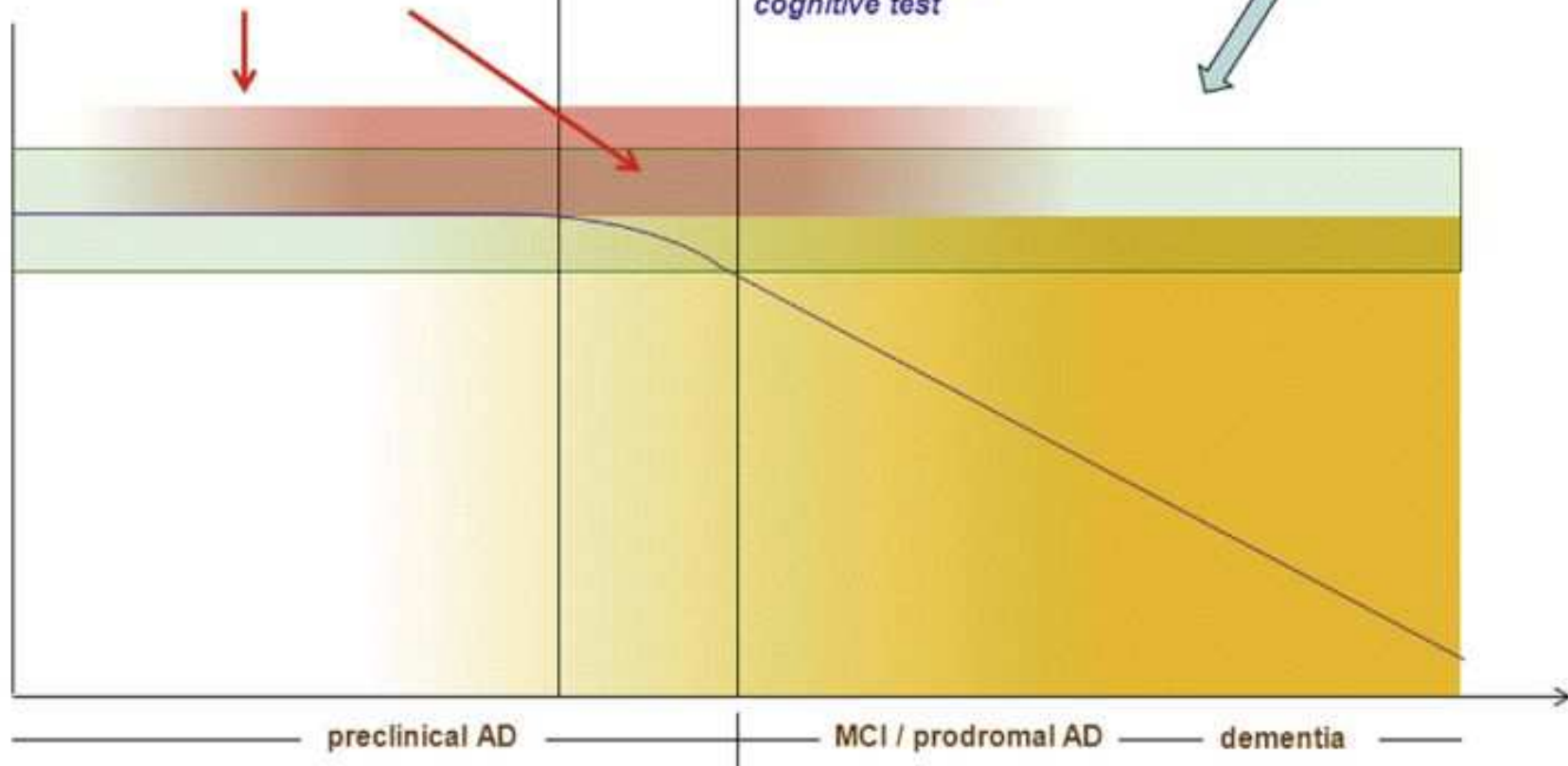
Onset of decline in
cognitive performance

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Age-, sex- and education adjusted
normal performance range

Impairment on a
cognitive test

Cognitive performance



progression of disease pathology and clinical states

RESEARCH CRITERIA FOR PRE-M SUBJECTIVE COGNITIVE DECLINE (SCD)(JESSEN ET AL. 2014)

1. Self-experienced persistent decline in cognitive capacity in comparison with a previously normal status and unrelated to an acute event.
2. Normal age-, gender-, and education-adjusted performance on standardized cognitive tests, which are used to classify mild cognitive impairment (MCI) or prodromal AD.

1 and 2 must be present

Exclusion criteria

- Mild cognitive impairment, prodromal AD, or dementia
- Can be explained by a psychiatric* or neurologic disease (apart from AD), medical disorder, medication, or substance use



FEATURES THAT INCREASE THE LIKELIHOOD OF PRECLINICAL AD IN INDIVIDUALS WITH SCD

- Subjective decline in memory, rather than other domains of cognition
- Onset of SCD within the last 5 y
- Age at onset of SCD ≥ 60 y
- Concerns (worries) associated with SCD
- Feeling of worse performance than others of the same age group

If available or possible to obtain in the respective study:

- **Confirmation of cognitive decline by an informant**
- **Presence of the APOE $\epsilon 4$ genotype**
- **Biomarker evidence for AD (defines preclinical AD)**

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THANK YOU!