Young Onset Dementia
Special Interest Day

15 July 2019
The Royal College of Psychiatrists
21 Prescot Street, London, E1 8BB

#MSNAP19

YOD & DIAGNOSTIC NEUROPSYCHOLOGY

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Faculty of the Psychology of Older People

Overview

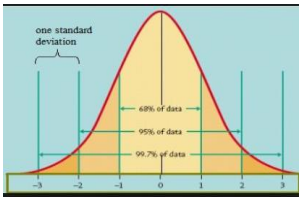
- Principles of Neuropsychology
- Use in Memory Services
- What's different for younger people
- Screening tools
- Levels of assessment
- Types of assessments
- Referral decisions
- Sub-types and sub-groups
- BPS resource

Neuropsychology in Memory Services

- Who has employed
  - Clinical Neuropsychologist?
  - Clinical Psychologist?
  - Counselling Psychologist?
  - Assistant Psychologist?
- Who has "access to"
  - The above
  - Neuropsychology Service
  - other

Basic principles of Neuropsychology assessment

- Statistics and the Normal Distribution



- Every characteristic we measure follows a type of normal distribution
- ND can be standardised using the standard deviation from the mean
- Error is normally distributed

Basic principles of Neuropsychology assessment

- Normative comparison data
  - Large numbers of healthy people tested
- Age scaled norms
  - Stratified comparison data by age group
- Samples of date from condition specific groups
- How representative are the samples used for test construction?

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Basic principles of Neuropsychology assessment

- Objectivity
  - correlation between administrators
  - Do you give hints?
  - Are you strict or lenient in scoring
  - Do you behave differently with a patient in their 50s or 90 – perhaps you should?

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Basic principles of Neuropsychology assessment

- Reliability
  - Re-test reliability: test repetition
    - Are the conditions really the same
  - Inter-rater reliability (objectivity): different people scoring
    - Interpretations of scoring guidance
  - Using tests outside laboratory conditions
  - Testing in inpatient units

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Basic principles of Neuropsychology assessment

- Validity
  - How well does it measure what it sets out to assess
  - Are tests more valid for younger or older people?
- Coefficients of Objectivity/Reliability/Validity
  - Correlations and percentages
  - What is good enough?

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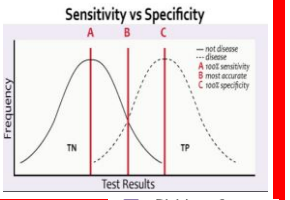
Basic principles of Neuropsychology assessment

- Sensitivity & Specificity

Formula	Definition
Sensitivity Sen = TP / (TP + FN) = TP / Diseased	Percentage of patients with the disease that receive a positive result Percentage chance that the test will correctly identify a person who actually has the disease
Specificity Spec = TN / (TN+FP) = TN / Not Diseased	Percentage of patients without the disease that receive a negative result Percentage chance that the test will correctly identify a person who is disease free



Basic principles of Neuropsychology assessment

- Sensitivity & Specificity

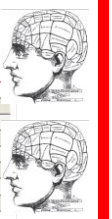


TABLE 1
Sensitivity and specificity of commonly used dementia screening tests

Test	Cutoff score	Sensitivity (%)	Specificity (%)
Mini-Mental State Exam[22]	<24	66	99
Word Fluency – Animal Naming[a]	<15	88	96
Mini Cognitive Assessment[a]	<2	76	89
Sweet 16[a]	<14	80	70
Trail Making B[23]	117 sec	75	76
MoCA (for MCI)[24]	<26	90	87
mini-KSCAr[18]	<36	92	95

KSCAr, Kingston Standardized Cognitive Assessment-Revised; MCI, mild cognitive impairment; MoCA, Montreal Cognitive Assessment.

Premorbid level of functioning

- Based on preserved reading ability as a proxy for level of functioning
- Educational and occupational history

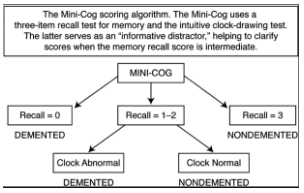
- Checking for validity – exceptions in PCA, FTD, dyslexia, education of women

Screening Measures in Primary Care

Screening for dementia in primary care: A review of the use, efficacy and quality of measures

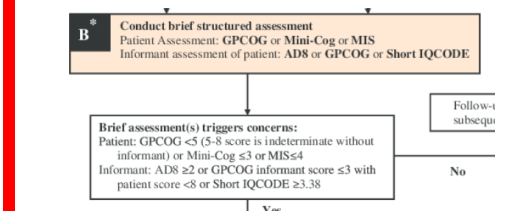
Despite evidence that early identification of dementia is of growing policy and practice significance in the U.K., limited work has been done on evaluating screening measures for use in primary care. The aim of this paper is to offer a clinically informed synthesis of research and practice-based evidence on the utility, efficacy and quality of dementia screening measures. The study has three elements: a review of research literature, a small-scale survey of measures employed in three primary care trusts, and a systematic clinical evaluation of the most commonly used screening instruments. The study integrates data from research and clinical sources. The General Practitioner Assessment of Cognition (GPCOG), the Memory Impairment Screen (MIS), and the Mini-Cognitive Assessment Instrument (Mini-Cog) were found to be brief, easy to administer, clinically acceptable, effective, and minimally affected by education, gender, and ethnicity. All three have psychometric properties similar to the Mini-mental State Examination (MMSE). Although the MMSE is widely used in the U.K., this project identifies the GPCOG, MIS and Mini-Cog as clinically and psychometrically robust and more appropriate for routine use in primary care. A coherent review of evidence coupled with an indepth evaluation of screening instruments has the potential to enhance ability and commitment to early intervention in primary care and, as part of a wider educational strategy, improve the quality and consistency of dementia screening.

Screening Measures in Primary Care



- The better ones:
  - GP Cog
  - MIS
  - Mini-Cog
- Major difficulties with younger and higher functioning people!

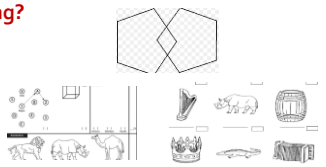
Screening Measures in Primary Care



Screening tools in Memory Services

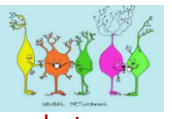
- Who is using screening tools in their Service?
- What are you using?

- MMSE/SMMSE
- MOCA
- ACE III
- Other?



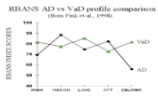
Cut-off points for referral to Neuropsychology

- Who is using screening cut off points?
- What are the cut off points?
  - MMSE/sMMSE: 23+
  - MoCA: 25/26
  - ACE III: 80+
- Beware of context, high functioning, early stages
- What's the point of referral cut-off?



A hierarchy of Neuropsychology testing

- Basic neuropsychological assessment in M/C
  - Premorbid functioning
  - RBANS
  - Executive functioning



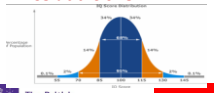
Executive functioning

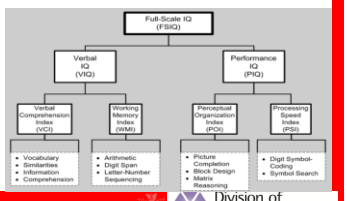
- Attention/Distractibility
- Planning/Organisation
- Problem Solving
- Learning from Feedback
- Fluency/Generation
- Response Inhibition
- Shifting cognitive set
- Judgement
- Processing capacity
- Psychomotor speed

- Executive function problems can have many origins
- It's not just FTD!

A hierarchy of Neuropsychology testing

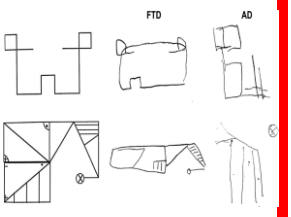
- "Full" neuropsychological assessment
  - Premorbid functioning
  - WAIS
  - WMS
  - DKEFS/BADS
  - Plus additions





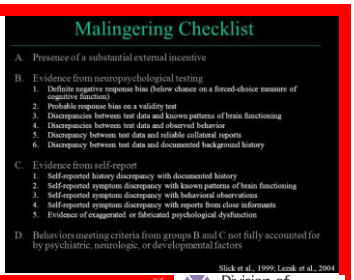
A hierarchy of Neuropsychology testing

- Practice issues:
  - What is testing for?
  - Weighing up diagnostic versus rehabilitative uses
  - Producing scores to tick boxes
  - Personcentred Neuropsychology

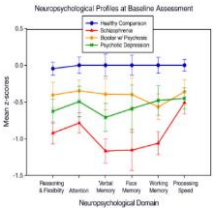


Effort testing?

- Do people fake dementia?
- Failing on purpose for personal gain?
- What do "tests of effort" measure?
- Effort tests can be failed due to dementia!



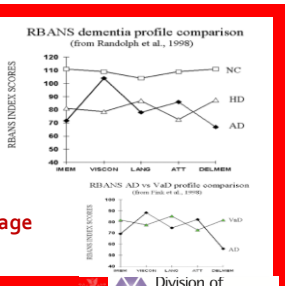
Major mental health history and YOD



- Schizophrenia and bipolar disorders cause/correlate with cognitive difficulties
- typically executive function difficulties, attention, fluency, processing…
- History of treatments, ECT, antipsychotics have cognitive effects of their own
- Without excellent informant reports testing can only establish a baseline
- Baselines are not valid if mental state varies

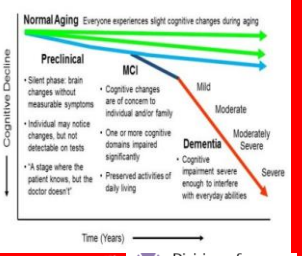
Differential diagnosis

- YOD or mental health?
- YOD or "malingering"
- AD or VaD
- Cortical/sub-cortical
- LBD
- FTD, behavioural and language
- PCA



A word about MCI

- Whatever is Mild Cognitive Impairment?
- DSM V and MCI due to Alzheimer's/LBD…
- A euphemism or WL control mechanism?
- Definitions vary
- Significant impairment?



- BPS resource on early stage dementia care pathway
- free to download
- Chapter on Neuropsychological Assessment by Daniel Collerton

https://shop.bps.org.uk/clinical-psychology-in-the-early-stage-dementia-care-pathway.html

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Thank you!

.... Any Questions?

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