Dementia, Parkinson’s disease & dementia with Lewy bodies

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Research question

What is the experience of caring for a person with dementia with Lewy bodies (DLB)?
Methodology

- 13 spousal carers of people with a diagnosis of DLB.
  - 12 female and 1 male carer.
  - Age 71 (SD±7.6) Years married 48 (SD±7.4)
  - 6 were recruited through dementia networks,
  - 6 through Parkinson’s networks and
  - 1 was a snowball through a carer support group.

- Methods:
  - questionnaire on the phone – demographics, assessment process and early signs they noticed in their spouses,
  - in depth interview (12 face to face, 1 telephone)
  - focus group (N=7).
Definitions

- Dementia is the term used to describe the symptoms of a large group of illnesses, which cause a progressive decline in a person’s mental functioning. It is a broad term, which describes a loss of memory, intellect, rationality, social skills and normal emotional reactions.

- Key words in the WHO 1992 definition. Consciousness is not clouded. ....the primary requirement for diagnosis is evidence of a decline in both memory and thinking
Definitions

- Diagnostic and Statistical Manual of Mental Disorders (DSM-IV TR) states dementia is manifested by both
  - (1) memory impairment
  - and (2) one (or more) of the following cognitive disturbances

- PD is a progressive, degenerative neurological condition. It primarily involves a disturbance in the co-ordination of movement and has three main symptoms: tremor, rigidity and bradykinesia (slowness of movement). (Parkinson's Victoria, 2007)
Perceptions

- Prominent feature of dementia is memory loss
- Anecdotally many people equate dementia, memory loss and AD as one entity.
- PD is a motor disorder
The what and where of DLB

- It is a progressive, neurodegenerative disease of ageing and thought to be the 2nd most prevalent form of dementia.
- Guidelines first reported in Neurology in 1996 and refined through 2 further consensus meetings.
Dementia with Lewy bodies
Representation of DLB Consortium Criteria McKeith et al: 2005

Core feature
Dementia

1 or 2 of
Fluctuations
Parkinsonism
Visual hallucinations

Suggestive features
REM sleep behaviour
disorder
Severe neuroleptic
sensitivity
Neuro-imaging
changes

Supportive features
Repeated
falls & fints
Transient
syncope
Severe
autonomic
dysfunction
Systemized
delusions
Hallucinations
in other
modalities
Other
medical
tests
Depression
Dementia with Lewy bodies
Representation of DLB Consortium Criteria McKeith et al: 2005

Core feature
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Supportive features
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Dementia with Lewy bodies

- Dementia defined as progressive cognitive decline of sufficient magnitude to interfere with normal social or occupational function (McKeith, et al 2005).
- Memory impairment not an early feature
- Deficits on tests of attention, fronto-subcortical and visuospatial ability
Dementia
Skill learning and habits

- This sub cortical memory involves areas of the cerebellum, the cholinergic basal nucleus of Meynert and the basal ganglia (Gabrieli, 1998; Nolte, 2001)

- re-entrant circuits between the cortex and the basal ganglia;
  - the reward-guided choice behaviour circuit
  - the executive circuit for planning and working memory
  - the motor circuit
Carers reports of spouses’ subcortical deficits

- Memory deficits
  - Expressed as retrieval deficits with preservation of recognition

- Executive dysfunction
  - Concepts, problem solving and set shifting
  - Internally cued behaviour
  - Tasks that require planning and sequencing

- Attentional impairment
  - Reaction times and vigilance
  - Fluctuations
DLB – where does it fit?

- AD / DLB
- DLB / PD
Dementia with Lewy bodies

Representation of DLB Consortium Criteria McKeith et al: 2005

Core feature
Dementia

Fluctuations          Parkinsonism          Visual hallucinations

Suggestive features
REM sleep behaviour disorder          Severe neuroleptic sensitivity          Neuro-imaging changes

Supportive features
Repeated falls & fants          Transient syncope          Severe autonomic dysfunction          Systemized delusions          Hallucinations in other modalities          Other medical tests          Depression
Lewy bodies

Lewy bodies - alpha synuclein deposits in cell bodies

Can be found throughout the brain but particularly in the brain stem, basal ganglia, substantia nigra & basal cells of Meynert.

Impact dopaminergic & cholinergic systems
History

1817  James Parkinson’s essay on Shaking Palsy

1862  Charcot coined the term Parkinson’s disease added cognitive impairment

1912  Fritz Heinrich Lewy (1885–1950 (Frederic Henry Lewey) described and named Lewy bodies

1992  α-synuclein immunocytochemistry led to the ability to stain Lewy bodies

1995  “Dementia with Lewy Bodies”

1st CDLB (McKeith et al)
Lewy body disorders

- Dementia with Lewy bodies (DLB)
- Parkinson’s disease (PD)
- Parkinson’s disease dementia (PDD)
- Lewy body dementias (DLB & PDD)
- Lewy body disease (PD, PDD & DLB)
A way to increase DLB awareness

Neuro degenerative diseases

Dementia
- AD
- FTLD
Vascular
Others including
- Alcohol related
- Parkinson’s
- DLB

Parkinson’s disease

Other NDDs:

Amyloidopathy: AD

Tauopathies: AD / FTLD

Alphasynucleinopathies:
- DLB
- PD
- PDD
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