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Adjusting self-care according to cognitive function in diabetic patients

Experience of cooperation between a memory clinic and diabetic section at CSK Hospital
Diabetes mellitus

- Complex metabolic disease, hyperglycemia
- Chronic complications
- Eyes, kidneys, peripheral nerves
- Predominantly Type2, Type1 5-10%
- 2013 382 million people

Diabetes mellitus is associated with dementia
Cognitive conditions

• Primary degenerative conditions
• Complications of other diseases
• Cerebrovascular
• Neurological
• Systemic
• Diabetes mellitus
DSM-5 diagnostic manual

- Major Neurocognitive Disorder
- Mild Neurocognitive Disorder

Different levels and etiological subtypes
Adaptation to a younger generation
DCCT/EDIC

• Intervention and Complication study
• Intensive therapy
• Reducing long-term complications
• Eyes, kidneys, peripheral nerves

• Intense treatment reduced early stages of microvascular complications by 35-76%
Cognition and diabetes

• T1DM: decline in psychomotor speed and mental flexibility
• T2DM: verbal and visual memory, information, processing speed and executive functions

• Executive: planning, organising, problem solving, reasoning attention and task shifting

SELF-CARE
Self-care and cognition

- Testing and monitoring blood-glucose
- Regulating nutrition
- Engaging in physical activities
- Monitoring complicated medications

- Working memory
- Executive functions: planning, reasoning, task shifting, attention, filter, not to be distracted
Research Challenge

• Establishing the importance of screening for cognitive impairment in people with diabetes

• Identify those at increased risk of accelerated cognitive decline
Our experience

• During 10-15 years, ~ 50 patients
• 75% T1DM- referrals from the diabetic clinic
• Complications at first visit
• Common signs and symptoms

Interaction in closer cooperation with the diabetic clinic
Diabetes and cognition-symptoms in common

• Sensitive to stress and stimuli

• Executive problem: task shifting, planning and reasoning
• Self-care difficult, lack of motivation and risk assessment
• Forget their insulin if distracted or take twice the dose
Diabetes and cognition - the process of care

• Since 2008 structured cooperation
• Doctors and nurses educated in cognitive symptoms
• How to discover cognitive decline

• Tests in common
• Global and executive functions
• Keep it simple
Process of care- PM in common

*When to suspect cognitive impairment*

- Complains about memory problems
- Normally even blood-glucose levels turn erratic
- Difficulties to get an even blood-glucose level
- High long-term measures
- Changed behaviour
Carefull review

• Participation of family members- need of diabetic school?

• Probable risk factors
• compliance in self-care
• Hours of work versus self-care
Cognitive tests- keep it simple

• MMT- global function
• Drawing test, clock and cube- visuconstruction
• Trailmaking test A and B- executive functions

• More? Memory clinic- extended tests, brain imaging
Together with the diabetic section

- Guidance in self-care
- Support at insulin administration - HumanPen Memoir
- Work- Occupational therapist visit and adjust environment
- Education for the family or home care staff
- Cognitive adapted utilities simplify daily life
Our impression

Less patients today with major neurocognitive impairment at first visit

We need more research in this field

Local health care program “guidelines” in common for the primary care
Thank you

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