



Faculty of Health Sciences



The Copenhagen Aging and Midlife Biobank (CAMB)

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Kirsten Avlund; 11/05/2008

General purpose

To establish a midlife biobank with focus on *biological, cognitive and social* variables - in order to study aging processes over the entire life course



Main research questions

1. Is low grade inflammation in midlife related to other early indicators of aging (muscle strength, oral health, cognitive function, functional ability and tiredness)?
2. How are biological, mental and social factors in childhood and adolescence associated with low grade inflammation in midlife?
3. Is low grade inflammation predictive of early aging at follow-up (e.g. cognitive function, functional ability, muscle strength, tiredness)?



Low grade inflammation

A possible risk factor for several chronic diseases and early aging (CVD, osteoarthritis, dementia, muscle loss, disability and mortality)



Early aging indicators

- Low grade inflammatory processes
- Cognitive decline
- Muscle loss
- Oral health
- Physical performance
- Tiredness



Involved cohorts

Pregnancy/Birth → Childhood/adulthood → Midlife

The Danish Longitudinal Study on Work,
Unemployment and Health (born 1949, 1959)

Age 40/50 → 45/55

The Metropolit Study (born 1953)

Age 0 → 12 → 18 → 51

The Copenhagen Perinatal Cohort (born 1959-61)

Age 0 → 1 - 6 → 20 → 34 → 45



Copenhagen aging and midlife biobank (CAMB)

- Follow-up study 2009 – 11 including blood samples, questionnaire, physical and mental tests
- 20.000 will be invited, we expect/hope for 10.000 participants
- Response rate in previous waves $\sim 70\%$



Blood samples

- IL-6
- hsCRP
- TNF-alpha
- IL-15
- IL-18
- DNA-repair
- Cholesterol
- Blood sugar
- Hemoglobin



Clinical examination

- Height
- Weight
- Percentage of bodyfat
- Blood pressure
- Periodontal examination (in a subpopulation)
- Lung function (spirometri)



Physical tests

- Functional ability (chair-rise test)
- Muscle strength (hand-grip strength, ventral and dorsal thorax)
- Muscle power
- Balance
- VO2 max (in a sub-population)



Cognitive function

I-S-T 2000 R (Intelligenz-Struktur-Test)

- Sentence completion
- Sequence of numbers
- Analogies



Questionnaire

- Health
- Oral health
- Tiredness
- Mental function (anxiety, depression)
- Socio-economic factors
- Workability
- Working life history
- Social relations
- Social capital
- Health behaviours
- Indoor climate



Registry linking

- Patient Registry
- Cause of Death Registry
- Psychiatric Central Registry
- Cancer Registry
- Drug Prescription Registry
- Statistics Denmark (e.g. on socioeconomics)



Perspectives

- CAMB provides an outstanding possibility to study the influences of factors early in life (childhood and adolescence) on early aging in midlife
- CAMB will form the basis for numerous future studies on the importance of biological, cognitive and environmental factors in midlife for premature aging in later life



The Copenhagen Aging and Midlife Biobank

Steering group:

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