NORDISK GERONTOLOGISK FÖRENING

GeroNord

Nytt om forskning, utvecklingsarbete och undervisning på äldreområdet i Norden

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Editorial for Gero Nord 1/2011

"No chain is stronger than its weakest link." This is a saying familiar to most of you. This is true for the Nordic Gerontologic Federation as well as for most other organizations that rely on their membership. It was therefore difficult for the NGF when the Swedish Geriatric Society (Svensk Geriatrisk Forening = SGF) decided to leave the Nordic Association three years ago. They had valid arguments for this decision; researchers in geriatrics were more and more looking into other directions than the other Nordic countries and the competition for participants in scientific congresses was increasing, in Europe as well as world wide. These arguments have surely been heard as well in other Nordic member associations of the NGF. It was therefore a great relief for the NGF that SGF decided a few months ago to join the association again. One of the reasons for this is the fact that the Nordic congresses in gerontology, organized by the NGF and their respective national associations are in spite of what some may think, a very important venue for all researchers and teachers in gerontology and geriatrics in the Nordic countries.

Nordic collaboration in research and education is vibrant. I will only mention two examples of initiatives that both are on the planning stage now.

Nordic professors in Geriatrics have been meeting fairly regularly for almost two decades. They have formed working groups that have published consensus papers on geriatric assessment and on geriatric rehabilitation just to mention two obvious facts. They have also formed series of courses for PhD students, not only in geriatrics but also for gerontologists in general. One such series of courses is being planned starting in Finland next August. It will then go on to the other countries, two times a year with different agenda at each site. Researchers, preferably PhD students, form all the Nordic countries are invited to participate. They can participate in all of the courses or in some of them according to their needs. The professors and other senior teachers in geriatrics in the Nordic countries are contact persons in respective country. The applicants, or their institutions will need to finance the trip but accommodation, at least for the first course, is without charge. The aims of the courses are stated in the agenda: "To get young gerontologists/geriatricians interested in research, to enhance and update their knowledge and skills in gerontological research, to promote their own research and theses, to support networking between participants and to promote Nordic co-operation in gerontological research." Up to six participants from each country are able to participate.

Another example of Nordic collaboration is mentioned in this issue of Gero Nord, the Nordic EEG project that is being planned by eight centres in five Nordic countries and in Lithuania. This project is organized by a network of Memory Clinics using a grant from Nor Forsk for the task. The project itself is however financed by the Kavli research fund in Bergen. This is an example of scientific collaboration that other might wish to follow .

The 21 NKG will be held in Copenhagen in June 2012 as can be seen in this issue. It is of great importance that everyone conducting or organizing research in gerontology/geriatrics is well aware of this important venue for information sharing in research and that they plan well ahead their contribution.

Jon Snaedal, President of the NGF

The Nordplus Gerontology Network: Increasing the availability for higher education in ageing studies in the Nordic and Baltic region

Virpi Uotinen, Terttu Parkatti and Tiina-Mari Lyyra

Being a multidisciplinary science, education in gerontology could highly benefit of networking between Nordic and Baltic countries. The Nordplus Gerontology is a network of Nordic and Baltic institutes of higher education. It aims to increase availability of gerontology or related training in the region by organizing courses and financing student and teacher mobility. These activities enable a more effective use of teaching potential within the network institutions thus saving resources and providing new angles on teaching and research. For students, increased availability of courses in gerontology outside of the home university, offers potential for a more enriched curriculum and more alternatives for a study abroad period.

The most challenging activity initiated by the cooperation within the Nordplus Gerontology network is the Nordic Master's Degree Programme in Gerontology (NordMaG), a joint 120 ECTS master's programme that was established in year 2008 by three of the Nordplus Gerontology Network universities: Iceland, Lund and Jyväskylä. A total of 15 students are annually enrolled for the NordMaG, five in each of the three universities. Intensive courses form an important part of the NordMaG curriculum. These courses, combining web-based studies with on-campus week, welcome students from all network institutions.

The network has been successful in applying funding for activities mentioned above from the Nordplus Framework Programme (sector Higher Education) launched by the Nordic Council of Ministers. The main aims of the Nordplus Framework Programme are to strengthen and develop Nordic educational cooperation and contribute to the establishment of a Nordic-Baltic educational area. The Nordplus Gerontology is looking forward to meet these challenges even more effectively by strengthening the cooperation between the institutions involved in higher education in gerontology and related areas in the region. Currently the network consists of 10 partner institutions from Iceland (University of Iceland), Finland (University of Jyväskylä, University of Tampere, University of Applied Sciences Arcada in Helsinki), Sweden (University of Jönköping, University, University of Uppsala, and Lund University), Norway (University of Bergen, Gjövik University College) and Estonia (University of Tartu). Diakonhjemmet University College from Oslo, Norway, will join the network in 2011. University of Jyväskylä is coordinating the network. Currently, the Nordplus Gerontology Network is preparing an application for funding for the period 2011-2012 and welcoming new institutions that are interested in to co-operate.

More information:
Virpi Uotinen: virpi.uotinen@jyu.fi
Nordplus Gerontology Network https://www.jyu.fi/sport/laitokset/terveys/en/Nordplus
Nordic Master's Degree Programme in Gerontology
https://www.jyu.fi/sport/laitokset/terveys/en/Nordplus/nordmag

UNIVERSITY OF JYVÄSKYLÄ

Nordic project on EEG in cognitive impairment and dementia.

Jon Snaedal

The Nordic Network in Dementia Diagnostics (NIDD) is a Nor Forsk financed initiative of eight academic Memory Clinics in the Nordic countries and Lithuania. As the name indicates, the main objective of this network is to look into various aspects of the diagnostic procedure in dementia. The first task was to compare the methods of diagnostic procedures used in the respective centres. Even though the methods were to a great deal similar, the individual tools tend to differ such as how cognitive impairment and depression are evaluated. Other methods were similar such as morphologic radiology. Most of the centres have established databases containing clinical information but they are tailored to meet the requirements at each site and it   soon became evident that it was not feasible to establish a common database for all centres even though that is tempting.

The major aim of the Nordic Network, apart of establishing the network as a basis for collaboration, is to promote common academic research projects. As most of the centres have been research driven it was not difficult to find possible projects that could be conducted in all centres. The first research project to be chosen was to validate a method of using EEG registration in evaluation of cognitive impairment and dementia. Mentis Cura, a research and development company in Iceland has developed this method during the last 7 years. Information from EEG registration is collected quantitatively, a method that has been used for more than two decades. The novelty of the method is to collect EEG information from many registrations into a database and then to use a statistical method to separate the individual registrations on the bases of the information collected. This method is called Statistical Pattern Recognition (=SPR (1)), a well-known method of data mining used in different settings. Mentis Cura has been using this method in collaboration with the Memory Clinic in Reykjavik on dementia with primary focus on Alzheimer's disease and the Department of Psychiatry for Children and Adolescents on ADHD. Until now there has been two publications on this method, one on the stability of the method itself (2) and one on a pilot study of AD and Mild Cognitive Impairment (3). The researchers have now collected a database of more than 1000 EEG-registrations and a manuscript on the SPR method on this information is now in process. Further projects are either finished and are being prepared for publication, or ongoing.

The Nordic Network (NIDD) has managed to finance the multicenter study on the EEG-SPR-method and is preparing to start next April for one year, collecting 400 EEG registrations of clinical patients and around 100 controls from the community. It is the Kavli research fund in Bergen that provides the grant that makes it possible to conduct the study but the Nor Forsk grant has been used for the preparatory meetings. In addition to the core project, three PhD-projects have been planned as spin off studies in three different sites participating in the Nordic study, using the material that will be collected with some add on methods. It is complicated to organize and to harmonize a study to be conducted in 6 different countries but we in the group have been dedicated for this task and are now confident that this will be realized.

As it happens, the research world on dementia and cognitive impairment is now in a transitional phase. The current research criteria on AD of NINCDS/ADRDA since 1984 have been challenged and in a recent paper by Dubois et al (4), new research criteria are proposed. The main difference is in two aspects. One is in turning around the steps of the diagnostic process. Until now, the diagnosis of the extent of cognitive impairment precedes diagnosis of the disease causing the symptoms. The consensus of Dubois and colleagues is to diagnose the disease first and then to decide if the cognitive impairment is severe enough to constitute the concept of dementia. The other change is in the use of biologic markers to come to a conclusion on AD, in addition to impairment of episodic memory. It is of interest for our project to evaluate the EEG method as a possible biological marker for AD but in the current practice, the EEG has very limited value. This will be one of the objectives of the study.

If the group will be successful in conducting the study, irrespective of the outcome, this will most likely be the first of many collaborative projects of the Memory Clinics, and hopefully other centers will join in a later stage.

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Call for proposals for symposia at the 21st Nordic Congress of Gerontology – Dilemmas in Ageing Societies

The Scientific Committee of **21st Nordic Congress of Gerontology in Copenhagen June 10 – 13, 2012** invites you to submit a proposal for a symposium at the congress. Symposia proposals on all topics within gerontology are welcomed. Each symposium has a time-frame of 1½ hour for presentations and discussion, should contain a maximum of four to five presentations, and three or more countries should be represented.

Your proposal should include the following:

The overall topic of the symposium

Name and contact information of the organiser of the symposium

Names of contributors and the topic for their presentation

Submit your proposal for a symposium by e-mail to Eigil Boll Hansen, Chairman of the Scientific Committee **at the latest by 1ˢᵗ May 2011**.

E-mail: ebh@akf.dk

Konferanser

- I.A.G.G. VII European International congress arrangeres i Bologna, Italia den 14.-17. april 2011. Kongressens hjemmeside finner du her:http://www.iaggbologna2011.com/.

- Den fjerde norske kongress i geriatri arrangeres i Oslo 2.-3. mai 2011. Program for kongressen finner du her: http://www.legeforeningen.no/asset/50375/1/50375_1.pdf.

- 7th congress of the EUGMS arrangeres i Malaga, Spania den 28.-30. september 2011. Kongressens hjemmeside finner du her: http://www.eugms-segg2011.org/.

PhD summaries

Genetic and environmental effects on hearing acuity and the association between hearing acuity, mobility and falls in older women.

Anne Viljanen, MSc
Gerontology Research Centre, Department of Health Sciences,
University of Jyväskylä, Finland

The purpose of this study was to examine the contribution of genetic and environmental effects to individual differences in hearing acuity and to explore whether hearing acuity is associated with mobility, postural balance, and falls.

This study is part of the Finnish Twin Study on Aging, which comprises 103 monozygotic and 114 dizygotic community-dwelling female twin pairs aged 63-76 years. Hearing acuity was assessed using standardized audiometric methods. Maximal walking speed was measured over 10 meters, walking endurance as the distance covered in 6 minutes and difficulties in walking 2 kilometers according to self-report. Postural balance was indicated as a movement of center of pressure in semitandem stance assessed using a force platform. Information on falls was gathered for 12 months of follow-up with a fall calendar.

Quantitative genetic modeling showed that genetic effects accounted for over 60% of the total variance in hearing acuity of the better hearing ear at the low, mid and high frequencies, and in speech recognition. The remaining variance was due to environmental effects. Although overall heritability was rather constant across the frequency spectrum, at the low and high frequencies frequency-specific genetic and environmental effects together accounted for the majority of the total variance. Environmental effects were more prominent in the worse hearing ear.

Hearing impairments were associated with slower maximal walking speed, lower walking endurance and self-reported major difficulties in walking 2 kilometers. Poor hearing also predicted higher risk for new major walking difficulties during three-year follow-up and higher risk for falls, which was partially explained by the poorer hearing participants' poorer postural balance.

In conclusion, the results of this study suggest, first, that some people may be genetically more predisposed to hearing impairment in old age than others. These results also indicate that different genes and different environmental exposures are responsible for hearing deterioration in different frequency-areas. The next step would be to identify specific genes in hearing acuity which could lead to better understanding of the etiology of age-related hearing impairments and, consequently, to the better prevention and even cure of hearing impairments. However, for the present, modification of environmental risk factors, especially noise exposure, is the most feasible way of influencing hearing ability across the life span.

Second, the results of this study suggest that hearing impairments are associated with poor mobility, poor postural balance and falls, and thus have a direct effect on disability in older people. Primary and secondary prevention of hearing loss may have wide-ranging influences not only on older people´s ability to communicate, but also more widely on older peoples' functional ability. Furthermore, these results indicate that hearing impairments should be taken into account when planning interventions to prevent falls in older people.

Subjective health and coping in care-dependent old persons living at home.

Elin Thygesen
Faculty of Psychology, Department of Psychosocial Science
University of Bergen

The purpose of this thesis was to examine health and coping resources that allow older persons receiving in-home nursing care to cope with their daily challenges.

The thesis is based on data from a survey that consisted of both baseline and follow-up data, collected in a random sample of 242 community dwelling persons aged 75 years or older, receiving in-home nursing care. The data-collection was set in a random sample of seven municipalities in southern Norway. The thesis consists of four papers. In paper I, a multiple linear regression analysis was used to test the effects of independent variables on Self-Rated Health (SRH). In paper II, Cox's proportional hazard model was used to investigate the relationship between health and coping factors and risk of institutionalization. In paper III, the General Health Questionnaire (GHQ) scale was collapsed to yield a case/non-case dichotomy with a cut off point of four or more in order to define cases of psychological distress. A hierarchical regression analysis was used to investigate the relationship between health and coping resources and psychological distress. Finally, in paper IV, a factor analysis of the Subjective Health Complaints Inventory (SHC) was performed using principal component analysis (PCA) with varimax rotation. Standard multiple regression analyses were used to investigate the relationships between health and coping factors and the SHC Inventory.

The findings in paper I, III, and IV suggest that old care-dependent persons report to have a good health measured as self-rated health (SRH), psychological distress (GHQ), and subjective health complaints (SHC). In paper I, we found that men and women incorporate different information when rating their self-rated health (SRH), and that coping resources, measures as sense of coherence (SOC), were associated with SRH only in men. In paper II, we found that nursing home admission was influenced by patients' subjective evaluations of health (SRH) and perceived social support (SPS), in addition to physically disability affecting activities of daily living (ADL) and cognitive impairment (CDR). Coping resources (SOC) were not associated with NHA. In paper III, we found that psychological distress (GHQ) was related to higher levels of education, higher levels of subjective health complaints (SHC), and lower levels of coping resources (SOC). The factor analyses of The Subjective Health Complaints Inventory (SHC) in paper IV showed that the items clustered into four factors: Musculoskeletal pain, gastro-intestinal problems, respiratory/allergy problems, and Pseudoneurology. Six items did not load on any factor: chest pain, dizziness, heat flushes, migraine, diarrhoea, and eczema. Musculoskeletal pain was associated with self-rated health (SRH) and reported illnesses (RI), gastro-intestinal problems was only associated with ADL, and there were no associations between respiratory/allergy problems and the independent variables included in the study. The pseudoneurology subscale score in the SHC Inventory was mainly associated with psychosocial measures (GHQ and SPS), and in particular coping (SOC).

We suggest that old persons may tend to consider physical health problems as natural for their age and more or less inevitable, and therefore adjust their expectations and aspirations to their capacities. Coping resources, measured as sense of coherence (SOC), seem to predispose disabled elderly persons to experience less psychological distress by predisposing them to ignore, re-interpret, and compensate for the impact of negative health events. Evidently, coping also makes a difference with regard to subjective health complaints in very old people. Functional and cognitive impairments are established factors predicting nursing home admission (NHA). In addition, the patients' subjective evaluations of both their health and social support are important predictors of future NHA needs. Coping recourses did not function as a predisposing factor delaying NHA. Paradoxically, a high SOC may realize itself both in the ability to continue community dwelling, and to admit the need for nursing home facilities. Finally, the factor structure of the Subjective Health Complaints Inventory (SHC) did not differ significantly in old care-dependent individuals compared to the general Norwegian population. The SHC Inventory may be a useful instrument to identify subjective health complaints in old persons.

Danish PhD on development of drugs for osteoporsis.
Characterization of a Novel P2X7 Knockout Model, implicates a Role for P2X7in Bone Metabolism.

Susanne Syberg

Several studies have already shown that the P2X7 receptor is implicated in bone remodeling, but the two existing murine P2X7-/- models showed somewhat contradicting results (4,12). After the reporting of the naturally occurring mutation in the murine P2X7 gene (P451L, (13)), we hypothesized that the old models could have underestimated the effect of the ablation of P2X7. By sequencing exon 13 of the P2X7 gene, we show that the previously reported P451L polymorphism is present in most of the studied inbred strains. When P451L is related to bone status, an association between the polymorphism and the level of the bone resorption marker s-CTX can be demonstrated, but we are unable to verify the relationship in vitro. The BALB/cJ inbred strain was chosen as the genetic background of a novel P2X7-/- model, since the BALB/cJ mice have higher BMD totally and regionally in the femur, has high bone strength and increased bone volume in the histological samples compared to the background strains of the previous P2X7-/- models.

We show that the genetic background of the P2X7-/- mice has significant impact, since the novel BALB/cJ P2X7-/- model and the B6 P2X7-/- model from Glaxo (from which the BALB/cJ P2X7-/- is made by backcrossing) shows differences between genotypes with the same tendency, but with different magnitude. P2X7-/- mice have stronger bones, higher BMD and decreased resorption, but not all indices are significantly different from the wild types in the B6 P2X7-/- model. We show decreased IL-1 β secretion in the bone marrow of P2X7-/- mice, and since IL-1 β is a potent stimulator of bone resorption, it can explain the obtained differences in bone status. When the P2X7-/- mice become estrogen-depleted by OVX they are protected against the bone loss normally observed in OVXed animals, possible because of the normal P2X7-dependent regulation of maturation of IL-1β. We showed that the P2X7 receptor could be modulated in vivo by the P2X7 agonist BzATP. It provides support for further studies examining the potential of the P2X7 receptor as a therapeutic target. The new P2X7 model also provides a useful tool for examining the implication of the P2X7 receptor in mechanical stimulation of bone formation. Thus, the P2X7 receptor has a significant regulatory role in bone remodeling.

Control in life – and in death: An understanding of suicide among the elderly.

Ildri Kjølseth
Faculty of medicine, Institute of Basic Medical Science
University of Oslo

The primary objective of this study was to build knowledge that can help to provide an understanding of suicide among elderly people in Norway as expressed in the following three issues:
1: Investigating whether descriptions of elderly people who committed suicide, as given by informants who knew them, show common features that create recognisable patterns.
2: Gaining an understanding of suicides among elderly people through studying how they experienced their existence towards the end of their lives.
3: Studying how the elderly people who committed suicide perceived their contact with helpers in the health service.
This is a psychological autopsy study with a qualitative research design. Twenty-three people in the age group 65 to 90 who had committed suicide were studied, 19 men and four women. The informants were close relatives, family doctors and nurses/auxiliary nurses in home-based nursing care/care services. Sixty-three interviews were conducted in which the topics included the deceased's life story and his/her general way of behaving, health, circumstances during the end-of-life period, and relationship with the health service. The interviews were recorded on tape and transcribed in their entirety. The analyses were made according to the method of systematic text condensation.
The results from this study show a correlation between how the elderly people appeared as persons, how they lived and experienced their lives, and how they perceived their encounter with illness and functional decline in old age. Through insight into how the individual elements in this process are linked, it is possible to understand the suicides that occurred. The results also show that it is difficult to reach these people with help in a situation that threatens suicide, and shed light on the reasons for this.

Depression in dementia among patients in Norwegian nursing homes

Maria Lage Barca
Faculty of Medicine, Institute of Clinical Medicine
University of Oslo

Depression is prevalent in nursing home (NH) patients with dementia. The aims of this thesis were to describe the prevalence and pattern of depressive symptoms, the course and predictors of depression in nursing home patients. Further, we wanted to evaluate the reliability and validity of the Cornell scale for depression in dementia (CSDD).

Two studies were performed. A 12-month follow-up study among 1.159 NH patients and a validity study of the CSDD among 231 patients in institutions.

In the NH study the prevalence of dementia was 81%, 85.8% had at least one symptom of depression and 21.2 % had depression expressed as a CSDD score > 7. Among patients with a CSDD score of 8-12, 13% had a diagnosis of depression and among those with a score > 12 only 15.4% had this diagnosis.

Depression was more prevalent in patients with dementia than in those without. More patients with dementia had symptoms like irritability, anxiety, agitation, lack of joy, retardation, loss of interest, lack of energy and delusion than persons without dementia. The mood symptoms were equally prevalent in mild, moderate and severe dementia, whereas the non-mood symptoms were significantly associated to degree of dementia.

Worse general medical health and degree of dementia were strong correlates of depression in the cross-sectional study.

Depression had both a high incidence (14.9%) and a high persistence (44.8%) rate during 12-month follow-up. Patients that had been in NH for a shorter time had more depressive symptoms. Severity of dementia and use of antidepressants predicted depression at 12 months. Load of depressive symptoms at baseline, not being married and use of anxiolytics predicted persistent depression. Patients who died during the 12 month follow-up were significantly more depressed, were older, performed poorer in ADL and had worse physical health.

The validity study indicates that CSDD has a good internal consistency, reliability and validity and can be used as a screening instrument with cut-off of 7/8, meaning that 8 points and above indicates possible depression.

Feminine for Her Age. An Interview Study on Age, Body and Femininity

Therése Persson
NISAL, Department of Social and Welfare Studies
Linköping University

The aim of the dissertation to understand what meaning age is given to different age groups as well as in relation to the body and femininity. These relationships are examined on the basis of interviews with 25 individuals 6-99 years old. The study deals with how the interviewees describe and perform age, and how the relationships between age, body and femininity are expressed. Norms, and in particular how norms are constructed and used during the interviews, are also the focus of analysis. Parts of Judith Butler´s gender theory are used to set up a performance perspective on the body, femininity, and age, and to discuss norms.

During the interviews the individuals repeat, use and negotiate age norms. Norms for what is considered adequate for a certain age is constructed simultaneously along with norms of femininity and the body. The interviews illustrate perceptions that femininity should be staged in certain ways for certain age groups. It is also perceived as normal, the expectation that the body will change in certain ways throughout life.

The interviews reveal how the meaning of age varies depending on the age from which the person is speaking or in regards to what age one compares with. It appears that the individuals, based on their different ages, express different ways of defining and evaluating different ages and becoming older.

Some events are constructed as appropriate for girls and women of certain ages. The consequence of this is that other events are constructed as unfit. Based on these norms people risk being defined in negative ways. The study show how norms for age, gender and body interact so that people´s ability to understand themselves and others becomes limited, while these norms at the same time are used to create meaning and make oneself understood.

GERO NORD redaksjon:

Anette Hylen Ranhoff (ahranhoff@yahoo.no)

Ida Kristine Sangnes (ida.kristine.sangnes@haraldsplass.no)

Anna Siverskog (anna.siverskog@liu.se)

Om du har nyhetssaker du ønsker å ha med i GeroNord kan du kontakte de ulike landenes representant eller redaksjonen. I tillegg kan Dorte Høeg og Peter Schwarts kontaktes i Danmark og Adalstein Gudmundsson på Island.

Nordisk Gerontologisk Förening (NGF)s sekretariat och GeroNords redaktion har följande adress:

NGF

c/o NISAL, Linköpings universitet/ISV

SE-601 74 Norrköping

Sverige

Telefon: + 46 11 36 34 62

Hjemmesiden til NGF finner du her:

www.ngf-geronord.se