

## **ABCB1 genotypes and haplotypes in patients with dementia and age-matched non-demented control patients**

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Amyloid  $\beta$  is an *in vitro* substrate for P-glycoprotein (P-gp), an efflux pump at the blood brain barrier (BBB). The Multi Drug Resistance (*ABCB1*) gene, encoding for P-gp, is highly polymorphic and this may result in a changed function of P-gp and may possibly interfere with the pathogenesis of Alzheimer's disease. This study investigates to what extent *ABCB1* Single Nucleotide Polymorphisms (SNPs; C1236T in exon 12, G2677T/A in exon 21 and C3435T in exon 26) and inferred haplotypes exist in an elderly population and if these SNPs and haplotypes differ between patients with dementia and age-matched non-demented control patients. *ABCB1* genotype, allele and haplotype frequencies were neither significantly different between patients with dementia and age-matched controls, nor between subgroups of different types of dementia nor age-matched controls. This study shows *ABCB1* genotype frequencies to be comparable with described younger populations. To our knowledge this is the first study on *ABCB1* genotypes in dementia. *ABCB1* genotypes are presently not useful as a biomarker for dementia, as they were not significantly different between demented patients and age-matched control subjects.

## **Gender differences in health care use among the elderly population in areas of Norway and Finland. A cross-sectional analysis based on the HUNT study and the FINRISK Senior Survey**

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**Background:** The aim of the study was to examine gender differences in the self-reported use of health care services by the elderly in rural and

metropolitan areas of two Nordic countries with slightly different health care systems: Finland and Norway.

**Methods:** Population based, cross-sectional surveys conducted in Nord-Trøndelag Norway (1995–97) and in rural and metropolitan areas of Finland (1997) were employed. In the Norwegian data, a total of 7,919 individuals, aged 65–74 years old were included, and the Finnish data included 1,500 individuals. The outcome variables comprised whether participants had visited a general practitioner or a specialist, or had received hospital care or physiotherapy during the past 12 months. Gender differences in the use of health care services were analysed by multiple logistic regression, controlling for health status and socio-demographic characteristics.

**Results:** In Norway, elderly women visited a specialist or were hospitalised less often than men. In Finland, elderly women used all health care services except hospital care more often than men. In Norway, less frequent use of specialist care by women was not associated with self-reported health or chronic diseases.

**Conclusion:** The findings revealed differences in self-reported use of secondary care among different genders in areas of Norway and Finland.

## **Preventive home visits postpone mortality – a controlled trial with time-limited results**

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**Background:** There is a debate on whether preventive home visits to older people have any impact. This study was undertaken to investigate whether preventive home visits by professional health workers to older persons can postpone mortality in a Swedish context.

**Method:** A controlled trial in a small community in the north of Sweden. Participants are healthy pensioners aged 75 years and over. 196 pensioners were selected as the intervention group and 346 as the control group. The intervention, two visits per year, lasted two years.

**Results:** During the intervention, mortality was 27 per 1000 in the intervention group and 48 per 1000 in the control group. The incidence rate ratio for the

control group IR<sup>2000-2001</sup> was 1,79 (95%CI = 0,94–3,40). Analysing the data with an “on treatment approach” gave a significant result, 2,31 (95%CI = 1,07–5,02) After the trial the difference between the groups disappeared.

**Conclusion:** Preventive home visits in a healthy older population can postpone mortality in a Swedish context if they are carried out by professional health-workers in a structured way. When the home visit programme ended the effect on mortality disappeared. These findings are dependent on contextual factors that make it difficult to form general policy recommendations.

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### **The effects of long-term endurance training on the immune and endocrine systems of elderly men: the role of cytokines and anabolic hormones**

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**Background:** A decline in immune and endocrine function occurs with aging. The main purpose of this study was to investigate the impact of long-term endurance training on the immune and endocrine system of elderly men. The possible interaction between these systems was also analysed.

**Results:** Elderly runners showed a significantly higher T cell proliferative response and IL-2 production than sedentary elderly controls. IL-2 production was similar to that in young adults. Their serum IL-6 levels were significantly lower than their sedentary peers. They also showed significantly lower IL-3 production in comparison to sedentary elderly subjects but similar to the youngs. Anabolic hormone levels did not differ between elderly groups and no clear correlation was found between hormones and cytokine levels.

**Conclusion:** Highly conditioned elderly men seem to have relatively better preserved immune system than the sedentary elderly men. Long-term endurance training has the potential to decelerate the age-related decline in immune function but not the deterioration in endocrine function.

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### **Literacy and health outcomes: a cross-sectional study in 1002 adults with diabetes**

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**Background:** Inconsistent findings reported in the literature contribute to the lack of complete understanding of the association of literacy with health outcomes. We evaluated the association between literacy, physiologic control and diabetes complications among adults with diabetes.

**Methods:** A cross-sectional study of 1,002 English speaking adults with diabetes, randomly selected from the Vermont Diabetes Information System, a cluster-randomized trial of a diabetes decision support system in a region-wide sample of primary care practices was conducted between July 2003 and March 2005. Literacy was assessed by the Short-Test of Functional Health Literacy in Adults. Outcome measures included glycated hemoglobin, low density lipoprotein, blood pressure and self-reported complications.

**Results:** After adjusting for sociodemographic characteristics, duration of diabetes, diabetes education, depression, alcohol use, and medication use we did not find a significant association between literacy and glycemic control (beta coefficient,+ 0.001; 95% confidence interval [CI], -0.01 to +0.01;  $P = .88$ ), systolic blood pressure (beta coefficient, +0.08; 95% CI, -0.10 to +0.26;  $P = .39$ ), diastolic blood pressure (beta coefficient, -0.03; 95% CI, -0.12 to +0.07,  $P = .59$ ), or low density lipoprotein (beta coefficient, +0.04; 95% CI, -0.27 to +0.36,  $P = .77$ ). We found no association between literacy and report of diabetes complications.

**Conclusion:** These findings suggest that literacy, as measured by the S-TOFHLA, is not associated with glycated hemoglobin, blood pressure, lipid levels or self-reported diabetes complications in a cross-sectional study of older adults with diabetes under relatively good glycemic control. Additional studies to examine the optimal measurement of health literacy and its relationship to health outcomes over time are needed.

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### **Helping family doctors detect vulnerable caregivers after an emergency department visit for an elderly relative: results of a longitudinal study**

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**Background:** Family doctors have been

ascribed a role in monitoring patients and their informal caregivers. Little is known about the factors that might alert physicians to changing circumstances or needs of the caregivers. The study objective was to examine changes in family caregivers' quality of life following an emergency department (ED) visit by an older community-dwelling relative that might cue doctors to subsequent caregiver distress.

**Methods:** A longitudinal study with follow-up at 1- and 4-months was conducted in the EDs of 4 hospitals in Montreal, Canada. Caregivers reported on demographics and quality of life (SF-36). Patients reported on demographics and functional disability. Multiple linear regression for repeated measures was used to evaluate changes in caregiver quality of life and factors related to these changes.

**Results:** 159 caregivers (60.5 yrs  $\pm$  15.8%; 73.0% female), including 68 (42.8%) spouses, 60 (37.7%) adult children, and 31 (19.5%) other relatives participated. Following an initial ED visit by older relatives, caregiver general health and physical functioning declined over time, while mental health status improved. Compared to the other relative caregiver group, spouses were at increased risk for decline in general health, mental health, and physical functioning at 1 month, while adult children were at increased risk for decline in physical health at 1 month.

**Conclusion:** Spouses were most at risk for decline in quality of life. Primary care physicians who become aware of an ED visit by an elderly person may be alerted to possible subsequent deterioration in family caregivers, especially spouses.

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### **Assessment of balance and risk for falls in a sample of community-dwelling adults aged 65 and older**

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**Background:** Falls are a major health concern for older adults and their impact is a significant public health problem. The chief modifiable risk factors for falls in community-dwellers are psychotropic drugs, polypharmacy, environmental hazards, poor vision, lower extremity impairments, and balance impairments. This study focused on balance impairments. Its purpose

was to assess the feasibility of recruiting older adults with possible balance problems for research conducted at a chiropractic research center, and to explore the utility of several widely used balance instruments for future studies of the effect of chiropractic care on balance in older adults.

**Methods:** This descriptive study was conducted from September through December 2004. Participants were recruited through a variety of outreach methods, and all were provided with an educational intervention. Data were collected at each of two visits through questionnaires, interviews, and physical examinations. Balance was assessed on both visits using the Activities-specific Balance Confidence Scale (ABCS), the Berg Balance Scale (BBS), and the One Leg Standing Test (OLST).

**Results:** A total of 101 participants enrolled in the study. Advertising in the local senior newspaper was the most effective method of recruitment (46%). The majority of our participants were white (86%) females (67%). About one third (32%) of participants had a baseline BBS score below 46, the cut-off point for predicting risk of falling. A mean improvement in BBS scores of 1.7 points was observed on the second visit. For the subgroup with baseline scores below 46, the mean change was 4.5 points, but the group mean remained below 46 (42.5).

**Conclusion:** Recruitment of community-dwelling seniors for fall-related research conducted at a chiropractic research center appears feasible, and the most successful recruitment strategies for this center appeared to be a combination of targeted newspaper ads and personal contact through senior centers. The BBS and OLST appear to be promising screening and assessment instruments, which might have utility in future investigations of the possible effects of chiropractic care on balance.

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