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Abstracts for Free Communication Sessions

FC1-1

Evaluating the Kumon learning therapy program for persons with dementia using measures of cognition, awareness, task performance, and staff satisfaction: A pilot study

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There has been an increasing interest in Japan to use learning therapy (KUMON) with elder persons, in order to slow the effects of cognitive decline. Learning therapy consists of simple math and reading aloud exercises. Albeit learning therapy appears to have positive effects on cognition, little focus has been placed on how learning therapy actually translates to the performance of daily activities among clients living with dementia. Moreover, data pertaining to the relation between cognition and a person's awareness of how he or she performed a specific activity remains unavailable for this group. Since multiple factors such as social environment, level of client awareness and cognition, as well as client activity performance might impact on the ability to benefit from interdisciplinary interventions, the purpose of the present paper is to begin to explore some of these relationships. This is a multi-site pilot project involving persons with dementia (n = 46). The intervention consists of 30 minutes of simple math and reading exercises 5 days per week, provided in accordance with KUMON guidelines. A staff-to-patient ratio of 1:1 or 1:2 was upheld at all times. The control group consisted of regular group-based activity therapies. The Mini-Mental Status Exam (MMSE), Frontal Assessment Battery at bedside (FAB), Assessment of Motor and Process Skills (AMPS), and Assessment of Awareness of Disability (AAD) were used to evaluate cognition, ADL function, and awareness of disability. Cognitive assessments (MMSE and FAB) were completed at 0, 3, and 6 months, while ADL and awareness (AMPS and AAD) assessments were carried out with a sub-group (n = 8) at 0 and 3 months. Preliminary results suggest higher cognitive scores among individuals who participated in learning therapy for six months, as compared to groups that did not. Moreover, the greatest gains were seen during the first 3 months. Moreover, in keeping with findings in the literature, staff satisfaction seemed to increase with the implementation of the learning therapy program. The theoretical and clinical relevance of this program will be discussed, and set against the backdrop of an interdisciplinary body of literature.

FC1-2

Overcoming excess disability in communication for residents with dementia in nursing homes

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Background: Studies have reported that nursing home life is characterized by monotony and a lack of social activities. Empirical evidence shows that nursing home residents with dementia are often left to their own devices for most of the day.
Objective: Based on the model of communication breakdown syndrome in dementia (Lubinski 1995), a psychosocial intervention (the production of a life story book) was tested in a randomized controlled trial to examine whether it can promote the social quality of life for residents with dementia in nursing homes. This paper focused on the outcomes of the intervention group in terms of their communication ability.
Methods: The individual-based intervention consisted of six 30-minute sessions facilitated by a research assistant (RA) and a staff member. Thirty subjects completed the protocol. All sessions were audiotaped and transcribed verbatim. A coding system, A -appropriate response, IA – inappropriate response, IN – not related (to the question being asked), U – unintelligible response, M – more information than asked for, O – offered information without being asked, and N – no response, was developed in the process of transcribing the data. The frequency of the occurrences of the coded responses

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denoting the communication profiles of the subjects pre-(T0) and post-intervention (T1) were compared using the Wilcoxon signed ranks tests.

Results: The variables found to be significantly different when comparing T0 and T1 were A ($p = .028$) and M ($p = .039$). When the percentage of change (T0-T1) was examined for these two variables, only M was found to be significant ($p = .041$). A significant difference was also observed when A, M, and O were computed as the total number of appropriate responses between T0 and T1 ($p = .019$). There was no significant difference for the total number of inappropriate responses (IA and IN) between T0 and T1.

Conclusion: The results showed that this intervention had a positive impact on residents with dementia in the nursing home in terms of their communication performance. Because of the susceptibility of residents with dementia to excess disability as a result of breakdowns in communication with their caregivers, they lack the opportunity to participate in stimulating activities. This production of a life story book, which engages the long-term memory, is a feasible intervention for promoting communication and the social well being of residents with dementia in nursing homes.

FC1-3

Health promotion: Using spirituality to promote mental health in the elderly

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The purpose of health promotion is to increase the number of years of life and ensure better quality of remaining life. Spirituality in the form of religious faith can be considered a positive adaptive mechanism that can be used to cope with adversity including ill health. It is known that the relationship of religion/spirituality to mental health is controversial. Religion is often associated with traditional/institutional religion. Spirituality, on the other hand is considered more personal, inclusive and ultimately a broader concept. Modern society prefers to speak about spirituality. Consider the proliferation of scholars such as Dr. Wayne Dyer and Deepak Chopra, who in the twenty-first century espouse the benefits of spirituality. It is proposed that encouragement of faith beliefs and practices can promote healing and wellness, thus leading to improvement of overall health status and better quality of life. Devout religious belief and practice has been shown to decrease depressive symptoms, decrease suicide attempts, decrease rates of anxiety, and improve ability to cope with stress. For many older patients, religious faith is a durable source of hope, meaning and purpose, especially during difficult times. A longitudinal study illustrated the short/long term importance of religious participation to the health and well-being of elderly persons. Another study investigating the association between religiosity and loneliness found that loneliness is more common in men and people without strong religious beliefs. A growing body of scientific evidence demonstrates a significant relationship between spirituality, health and successful aging. In a study of HIV-infected individuals, spiritual well-being was found to be a significant factor related to both sleep quality and mental and physical health status. Religious practices, attitudes and coping behaviours are prevalent among older adults and are related to social, psychological and physical health outcomes. Given the widespread use of religious beliefs and practices, inquiring about and supporting these beliefs and practices in older adults is an ethically appropriate clinical intervention.

FC1-4

A placebo-controlled pilot study of a sleep hygiene education (SHE) in Parkinson's disease sufferers and their carers

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Background: Sleep disturbances of various kinds may be seen in up to 25% of male PD patients and 41% of females with PD. There is evidence that sleep disturbances in spouses of PD sufferers can be as high as 27% of males and 48% of females. One of the most effective treatments for primary insomnia is sleep hygiene education (SHE), which is a pragmatic and easily learned therapy involving sleep behavioural changes. To date, no such therapy has been studied for those with sleep disturbances in PD.

Objective: To investigate the qualitative and quantitative effect, as well as the feasibility, of a sleep hygiene intervention program in PD patients and their carers with sleep disturbances.

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Methods: This is a randomized placebo-controlled study of a SHE intervention in PD patients and their carers. PD patients with a Livingston Sleep Scale cut-off score for clinically significant sleep disturbances who had live-in carer were included. Each couple was randomized to receive either a short pragmatic SHE teaching program over two sessions, 2 weeks apart or a placebo intervention of equivalent length. Quantitative measures of sleep, psychiatric and overall functioning (Neuropsychiatric Inventory (NPI), Geriatric Depression Rating Scale (GDS) and PD Quality of Life Scale) were administered at baseline and 2 weeks after the intervention to the PD patients; GDS, Carer Burden Scale and General Health Questionnaire were administered at the same intervals to the carers. A qualitative questionnaire about the effect of the sleep problem and the intervention was also undertaken.

Results: Patients and their live-in carers were included. The above outcome measures following intervention with SHE or placebo will be discussed. Overall, the intervention was found to be well tolerated, feasible and could easily be translated into the clinical setting. Patients and carers reported overall benefit from the SHE intervention.

Conclusions: Non-pharmacological management methods such as SHE should be explored in a structured way to determine feasibility and tolerability in the clinical setting for the management of sleep disturbances in patients with PD and their carers.

FC1-5

Building capacities in elderly people who have long term psychiatric disabilities using psychosocial rehabilitation

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Psychosocial rehabilitation within aged psychiatry for people who have long-term mental illnesses is a neglected area. Models used in the adult population are not appropriate for those in the older age group due to their different life focus and various physical co-morbidities. The St Georges Aged Psychiatry Service, St Vincent's Health in Melbourne, provides a unique model of psychosocial rehabilitation specifically tailored for people with long-term psychiatric disabilities. Group and individual work by a multi-disciplinary team are used to facilitate and reinforce the development of skills necessary for consumers to achieve successful integration in the community. Figural to this model is the development of the persons coping skills, social skills and problem solving abilities. Emphasis is given to building understanding of their mental and physical health issues. This presentation will discuss the model used, its effectiveness and economical implications. Case study illustrations will be provided.

FC1-6

Integrated music – an approach to improved health and well-being in nursing homes

Audun Myskja

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Background: A recent study has shown that up to 80% of Norwegian nursing home residents suffer from varying degrees of dementia, and 40% have mild or severe forms of depression. Medical treatment has a high incidence of side effects and interactions in this patient group. The search for effective supportive treatments is therefore important. There is growing interest in the role of empowerment in the course of long-term and complex illness. Creative activity may facilitate the access to personal resources in the elderly. Music as therapy has a long tradition, an increasingly consistent clinical approach and a growing documentation base. Music therapy performed by trained music therapists has been increasingly recognized as a combined modality for symptom treatment, positive sensory stimulation and an aid to communication when cognition and language fail. Individualized music preformed by staff has been shown to be effective in reducing agitation in dementia, and is increasingly been developed as a general treatment modality. Integrated music; a method tailored to the health services Integrated music utilizes a synthesis of the primary elements 1. music therapy by trained music therapists 2. individualized music preformed by staff and the supportive elements 1. staff and family singing within a clinical framework 2. volunteer work with prerecorded music based on preference evaluation 3. choirs for staff and patients 4. concerts by invited performers 5. reducing noise and unwanted sounds. The method has been developed along the lines of action research, can be simple, cost effective, and introduce new clinical tools in challenging

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situations like behavioural psychological symptoms of dementia. Several institutions that have utilized the method have had a significant reduction of sick leave among staff, and recent studies indicate that integrated music can be effective both in enhancing self worth and wellbeing, and be effective to reduce depression, agitation and sleep disturbances. The presentation will give an overview of the method Integrated music, including Research background Clinical development Results from studies on Integrated music as an intervention to reduce agitation Implications of the method for nursing home medicine. The presentation will include musical examples, music excerpts and video clips to illustrate the practical application of the method.

FC1-7

"The day the music died": A pilot study comparing a no-music to a music therapy condition in a Norwegian nursing home

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Origin: The nursing home Vaalerengen bo- og servicesenter in Oslo, Norway, a long-term institution with 84 residents, has continually had regular music therapy activities with a music therapist in full-time employment since 1999. The main activity was music therapy groups twice a week in each ward and individualized services other days. The institution was without music therapy services during the fall of 2003. Clinically, a general tendency towards lower mood states were noticed by ward nurses, and a comparison of depression levels with a no-music and a music condition was instigated.

Method: At the end of the period without music therapy services measurement of depression level by the use of Montgomery Aasberg Depression Rating Scale (MADRS) was conducted on residents ($n = 72$). Seven weeks after music therapy services had been resumed, a new measurement of depression levels of all residents by MADRS was conducted by independent raters.

Results: Depression ratings show a significant fall in the music therapy condition, compared with the no music therapy condition in a crossover design: MADRS 20,4 on an average in the no music condition, 12,2 on an average in the music condition ($p < 0.05$). Staff at the institution was stable, and there were no significant changes in medication.

Conclusion: A significant reduction in the average level of depression in a nursing home when music therapy services are resumed warrants recommendation for a larger controlled follow-up study. The oral presentation will present this study and give an overview of how music therapy can be adjusted precisely to different levels of function in nursing home and tailored to different types of dementia. Accepted for publication in Nordic Journal of Music Therapy, January 10, 2007.

FC01-8

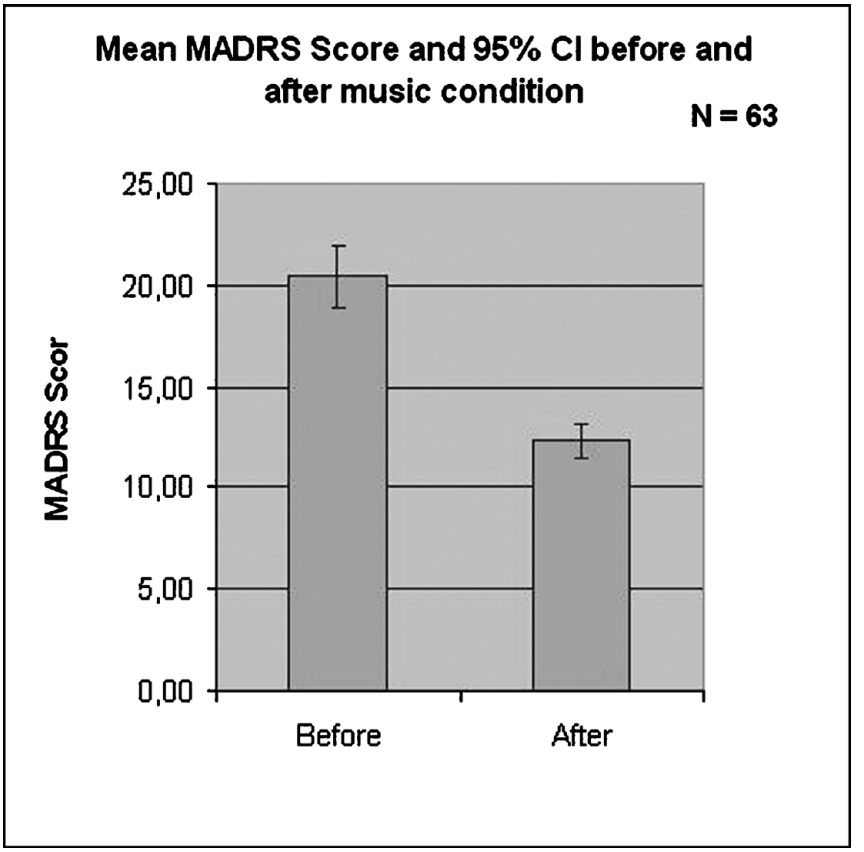
Acceptance and commitment therapy in the treatment of anxiety and depression among older adults

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The Behavioural and Cognitive therapies of the mid to late 20th century are sometimes regarded as the 1st two waves of modern psychotherapies. At the end of the last millennium however, a third wave of psychotherapies arose from both the cognitive and behavioural traditions. Acceptance and Commitment Therapy (ACT) is one of these psychotherapies developed by Hayes, Strosahl and Wilson (1999), and which grew out of Contextual Psychology. It is a mindfulness, acceptance and values-based psychotherapy, grounded in the behavioural and cognitive-behavioural traditions. At its core, it differs from more traditional therapies, in that it is not solution-focussed or problem-solving, but rather revolves around acceptance of negative emotions and the development of a commitment towards living a life based on cherished values. This premise is founded on the notion of the prevalence of human suffering, the vulnerability of the human condition to suffering, and that negative feelings are a natural part of life. The ACT approach to psychopathology and treatment is based on a fifteen-year programme of research on the behavioural processes underlying language and cognition. By attempting to undermine the literal grip of the verbal content of our thoughts on us, it constructs an alternative context where behaviour aligned with values is more likely to occur. ACT has been used successfully for the treatment of a wide range of psychological problems among adults, including depression, anxiety, psychosis, substance-use disorders, chronic pain, eating disorders and post-traumatic stress disorder. To date, there has

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FC1-7

only been anecdotal report of the use of ACT among an older adult population. From a developmental perspective older adults find themselves having to make huge adjustments to life changes, including retirement, declining health and ultimately death. Their ability to accept these inevitabilities and their emotional responses to these changes, play a major role in determining whether the final stage of their lives is spent productively or in despair. Given the relative dearth of non-pharmacological treatments for psychological problems such as anxiety and depression available to older adults, this oral presentation discusses some of the successes achieved in the use of ACT among older adults at an outpatient psycho-geriatric service in a regional hospital in New Zealand.

FC1-9

Cognitive-behavioural therapy for late-life anxiety disorders – a meta-analysis

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Anxiety disorders are highly prevalent in later life affecting up to 10–15% of elderly living in the community with generalised anxiety disorder (GAD) and the phobias being the most common, having 6-month prevalence rates of 7.3% and 3.1% respectively. Studies examining the efficacy of cognitive-behavioural therapy (CBT) for late-life anxiety disorders, however, are scarce and inconclusive.

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We performed a meta-analysis of randomised controlled trials comparing CBT versus 1) a waiting list control condition and 2) an active control condition (controlling for non-specific effects of giving attention) in elderly patients suffering from anxiety disorders according to DSM-IV criteria. The primary outcome measure was the end of treatment score on the Hamilton Anxiety Rating Scale and/or Beck Anxiety Inventory. Secondary outcome measures were the level of worrying and depressive symptoms. Treatment effects of individual studies was pooled using the standardised mean difference (SMD). A total of 7 papers fulfilled the inclusion criteria, including 9 randomised controlled comparisons reporting outcome measures for 297 patients. Included studies were coded twice (by G.J.H. and R.C.O.V.) with respect to study quality and data extraction. All studies included patients suffering from GAD, with only two studies also including panic disorder and social phobia. Based on the Amsterdam-Maastricht consensus list, a well-validated study quality assessment instrument based on Chalmers criteria, we found a narrow range in study quality score (range 12 to 15) corresponding with moderate to good study quality. CBT reduced anxiety symptoms significantly more compared to both a waiting list control condition (SMD = −0.44 [95 CI: −0.84, −0.04] z = 2.17; p = .03) and an active control condition (SMD = −0.51 [95 CI: −0.81, −0.21], z = 3.32; p = .001). CBT was also efficacious in reducing accompanying symptoms of worrying and depression. We conclude that CBT is efficacious for the treatment of late-life anxiety disorders. Small sample sizes limit subgroup analyses for the different anxiety disorders separately. CBT should deserve more attention in routine clinical care of both general practitioners and secondary mental health care professionals acknowledging the limitations of drug-therapy in later life.

FC2-1

Development of the Japanese version care planning assessment tool (J-CPAT): Reliability and validity studies

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Background: Care planning based on comprehensive geriatric assessment is essential in aged care under the Japanese Public Long-term Care Insurance (LTCI) scheme. Care Planning Assessment Tool (CPAT), developed by the Hammond Care Group in Australia, is a comprehensive geriatric assessment instrument, regarding dementia care. The CPAT demonstrates high reliability and validity through high correlation with the MMSE, the Barthel, and the Katz.

Objectives: To develop Japanese version CPAT (J-CPAT), and to evaluate its reliability and validity.

Methods: The CPAT is composed of 60 items, and 8 domains: Communication, Physical problems, Self-help skills, Confusion, Behavior, Social interaction, Psychiatric observation, and Care dependency. The process of adapting the CPAT into Japanese included the following: translation into Japanese, assessment of item comprehension, back translation, production of final version, pilot testing of the version, and the formal assessment of its validity and reliability. Through this process, an item about family interaction was added in the J-CPAT, regarding Japanese family traditions. The participants were 199 clients in residential care and day care services in a rural city in Japan. Selection was based on a random sampling of the clients' list from each facility. Raters were professional carers who participated in 2.5 hour training about the J-CPAT. To evaluate validity of the J-CPAT, we examined correlation between the J-CPAT domain scores, the MMSE scores, and levels of care needs under the LTCI scheme (Kaigodo). To evaluate inter-rater reliability, 10 residents were rated by 10 pairs of carers.

Results: Cronbach's alphas in each J-CPAT domain appeared 0.74–0.95. The correlation coefficients between the domain score of 'Confusion' in the J-CPAT and the MMSE was −0.90 ($p < 0.001$). Those between the domain scores of 'Physical problems', 'Self-help skills', 'Dependency on care' in the J-CPAT, and Kaigodo were 0.70, 0.75, and 0.67 respectively ($p < 0.001$). Weighted Kappa values for all items of the J-CPAT for 10 residents between 2 different raters were over 0.6.

Conclusions: The J-CPAT is considered to be an appropriate comprehensive geriatric assessment instrument for dementia care in Japan. Further studies are necessary to look at interfacility reliability and to compare demographic distribution of the scores between the CPAT in Australia and the J-CPAT in Japan.

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FC2-2

AD-Euro study: Clinical and economic evaluation on how to organize post-diagnosis care for dementia patients and exploration of the relationship between patient and proxy HRQL measurement

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Multidisciplinary memory clinics (MMCs) supply a multidisciplinary post-diagnosis product of targeted treatment and care after patients are diagnosed with dementia. There is great concern on the rapidly increasing costs of dementia related care. The question must be answered whether post-diagnosis treatment and care co-ordination, evaluated both on effectiveness and costs, should be carried out by MMCs or general practitioners (GPs).

We will conduct the AD-Euro study primarily to guide decision making on how to organize post-diagnosis care. Furthermore it is highly relevant for economic evaluations to clarify the relationship between proxy and patient assessment of quality of life (QoL), the latter probably becoming less reliable with progression in cognitive decline. Therefore, we will also study how proxy-QoL assessment can be determined best in economic evaluations, and address methodological aspects of HRQL measurement in dementia.

In this RCT patients with mild to moderately severe dementia according to DSM-IV TR criteria, with a Clinical Dementia Rating 1–2, living in the community, and their informal caregivers, will be randomized over MMCs and GPs after diagnosis. Primary outcome measures are QOL-AD (Quality of Life-Alzheimer's Disease Scale) by patients and proxies (patients' and own QoL), IDDD (Instrumental activities of Daily living in Dementia Diagnosis) and SoCQ (Sense of Competence Questionnaire). Costs are assessed using the Resource Utilization in Dementia-questionnaire. Incremental cost-utility (costs per QALY) and cost-effectiveness ratio, for a meaningful change in QOL-AD, IDDD and SoCQ, will be calculated. HRQL measurement is based on EuroQoL-5D with addition of a cognitive dimension. Relationships between patients and carers QoL assessment will be elaborated.

The AD-Euro study will facilitate economically sound decision making in dementia-care. If, as hypothesised, MMCs provide more effective post-diagnosis care at a reasonable cost, the results will stimulate reimbursed growth of MMCs to deliver post-diagnosis care in all dementia patients. If post-diagnosis care coordinated by GPs should have to be preferred because of advantages in effects, costs, or both, GPs should be reimbursed, trained and stimulated to take over post-diagnosis treatment from MMCs. AD-Euro will also answer the important question of GPs what benefit dementia patients and proxies can experience by early detection of dementia and referral to MMCs.

FC2-3

Aged mental health residential care: A reflective practice

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NorthWestern Aged Persons Mental Health is the largest provider of Aged Mental Health services in Australia offering comprehensive range of services to Northern and Western Melbourne. The service is available to about 200000 persons over 65. The service includes 5 residential facilities (120 high care beds 32 low care beds). These beds are governed by The Aged Care Accreditation Agency and are assessed against rigorous standards incorporating management systems, health personal care, resident lifestyles and physical environments. Workforce is predominantly nursing with significant proportions being Enrolled Nurses (RN Div2s). This paper details a process of investigation and evaluation of nurses attitudes and beliefs in relation to core business of facilities as governed by Accreditation Agency and The Mental Health Act. Clinical Nurse Educators conducted a series of focus groups within facilities over a period of 6weeks. Focus groups were semi-structured and asked staff to discuss views about core purpose of facilities, what facilities do well and what improvements could be made. The aim of focus groups was to explore staff perspectives, experiences and to identify opportunities for growth and development. A form was developed to capture views for those unable to attend focus groups.

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Data from focus groups was themed and a range of educational activities, practice development and quality planning were proposed and discussed with staff groups. Significant driver for development was staffs perceived lack of opportunity for peer review of residents management and lack of opportunity to contribute to development and implementation of care plans Importance of relationships between professional nursing and operational management within facilities was recognised as important factor to the success of this project and regular meetings between nurse educators and managers were scheduled to ensure agreement about process and expected outcomes. Formal expectations of professional competencies of staff were negotiated and educational priorities agreed. Significant outcomes of investigation are 1. Implementation of structured case presentations using formal format to compare actual care delivery to residents documented careplan enabling peer review and reflective practice 2. Establishment of reflective practice groups addressing areas for discussion as raised by staff group 3. Development of staff training by nurse educators to address identified needs. This project will be fully evaluated in September 2007.

FC2-4

Healthcare consumption in men and women aged 65 and above in the two years preceding decision about long-term municipal care

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The aim was to investigate health care consumption in men and women aged 65 and above in the two years preceding decision about long-term municipal care at home or in special accommodation and to investigate determinants for healthcare consumption. The study included 362 people (aged 65 and above), drawn from the Swedish National Study of Aging and Care (SNAC), who received a decision about long-term municipal care or/and services during 2002 to 2003. Data were collected from three registers. From the Skane County Council patient administration systems PASiS and PrivaStat data were collected about healthcare consumption from 2000 to 2003 concerning hospital stays, bed days, diagnoses and outpatient contacts and merged with data from SNAC regarding age, gender, marital status, functional dependency, psychosocial needs and living conditions. No significant differences were found between men (n = 115, mean age 80.8) and women (n = 247, mean age 83.8) regarding functional dependency and psychosocial needs. The men had significantly more hospital stays, longer length of stay in hospital, more diagnoses and contacts with staff groups beside physicians in outpatient care compared to the women. About 50 percent of the acute hospital stays occurred within five months prior to municipal care. Circulatory diseases, musculoskeletal diseases, cancer, injuries, unspecified clinical findings and genitourinary diseases were significantly associated with various kinds of health care consumption. The findings indicated a breakpoint about five months prior to municipal care and service and a share of 15 percent having several admissions to hospital. Early detection and application of preventive interventions to these people in stage of becoming increasingly dependent on continuous care and services seems urgent to prevent escalating acute health care consumption during the period before municipal care.

FC2-5

Activity participation and risk for incident delirium

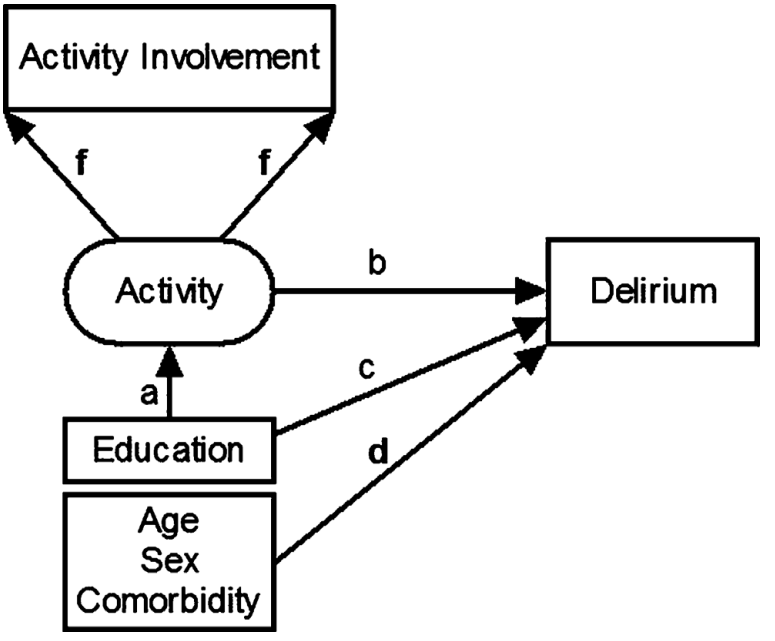
Frances M. Yang[1,2]; Sharon K. Inouye[2,3]; Michael A. Fearing[2]; Dan K. Kiely[2]; Edward R. Marcantonio[2,3]; Richard N. Jones[2,3]

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Context: Cognitive reserve is the resilience of neural networks against insults to the brain. Studies have shown that cognitive reserve (indicated by higher educational or occupational attainment, higher intelligence scores, or more participation in cognitively stimulating activities) may protect against insults such as acute illness and delirium. However, the contribution of cognitive reserve to delirium and the specific role of activity participation are not yet well understood.

Objective: To examine the association between education and self-reported participation in activities and the cumulative risk for delirium among newly hospitalized older (≥70 years) adults without

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FC2-5

dementia. Design, setting, and participants subjects were drawn from two prospective cohort studies of hospitalized patients in Connecticut, United States (N = 779). A baseline risk factor questionnaire included assessment of educational level and participation in 10 social, occupational, and vocational activities.

Main outcome measure: The cumulative risk for delirium was assessed using the Confusion Assessment Method by trained clinical interviewers throughout the hospitalization.

Results: Bivariable results indicated a significant relationship between both education and the development of delirium (odds ratio, 0.92 [95% confidence interval (CI), 0.88 to 0.97], and between activity and delirium (odds ratio, 0.60 [95% CI, 0.46 to 0.79]. In multivariable analysis, activity mediated the relationship between education and risk for delirium. In a multivariable logistic regression analysis considering each activity separately, we found that regular exercise significantly lowered risk for developing delirium (odds ratio, 0.76 [95% CI, 0.60 to 0.96].

Conclusion: Among persons without dementia, higher activity level before hospitalization is a potential marker for cognitive reserve capacity, which may offer protection against delirium. The mechanism by which this occurs may be more frequent and varied activity participation among persons with more education. Specifically, we found that participation in regular exercise was found to be significantly protective against delirium. Future studies are needed to evaluate whether interventions designed to increase baseline or pre-hospital participation in exercise may prevent or shorten the duration of delirium among older adults without dementia.

FC2-6

Subjective well-being and its role in successful ageing – A neglected area in research

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Many studies have examined depression in ageing with the assumption that this also provides information concerning the nature of happiness and well-being. There is consequently a paucity of research concerning positive affect and its determinants and relationship with successful ageing. The objective of

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this study was to review studies examining subjective well-being in ageing. MEDLINE, PsychINFO, CINAHL and EBM reviews were searched from their inception to April 2007 using the terms subjective well-being, well-being, positive affect, life satisfaction, happiness and optimism. The main findings were that most studies support an increase in happiness with age although some longitudinal studies have shown decreases over the lifespan. Subjective well-being and happiness appear to have both genetic and environmental contributions. Correlates of subjective well-being include marital status, religious commitment, subjective but not objective ratings of physical health, social capital, task or avoidance-oriented coping, cognitive function and housing quality. Importantly, a number of studies have indicated that positive affect is at least as much of a protective factor as negative affect is a risk factor for functional disability in ageing, especially following illness or injury, and for mortality. Early results indicate that positive psychology interventions such as the "good things in life" exercise and also volunteering may foster higher levels of subjective well-being and may buffer against the loss of role experienced with ageing. We conclude that subjective well-being and positive affect are important contributors to successful ageing and that further intervention studies should be pursued in order to enhance the mental health of older persons.

FC2-7

Risk factors of elderly depression and quality of life: A community-based study in rural Taiwan

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Aims: this study was to explore the prevalence, risk factors and quality of life among elders with major depressive episode (MDE) in Taiwan rural communities. The MDE and other relative factors were investigated whether these factors affect the quality of life in the elderly.

Method: Random cluster sampling was used to recruit 557 participants aged over 64 from 4 villages of Hunei Township of Kaohsiung County to do the interview and diagnosis by using DSM-IV criteria questionnaire and PSQI in this community-based, cross-sectional study. The demographic data, diagnosis of MDE, functional abilities status including hearing, vision and moving, co-morbid with physical diseases, socio-economic status and short-form 36 (SF-36) data were collected. Using SPSS for Windows, version 10.0, performed statistical analyses including t-test, Chi-square and multiple regression analyses.

Result: The 1-month prevalence of elderly MDE was 7.36%. Occupational status, functional abilities status, Co-morbid with physical disease, and sedative abuse were statistically significant ($\chi 2$ test, $p < 0.05$) between MDE and non-MDE samples. The 8 domains, mental component summary (MCS), and physical component summary (PCS) of SF-36 were significantly different between MDE and non-MDE groups. All SF-36 subscale scores, PCS and MCS were significantly (t- test, $p < 0.05$) lower in MDE group compared to the scores of non-MDE group. The results of multiple regression analyses showed that PCS was predicted from five variables i.e. diagnosis of MDE, functional abilities status, co-morbid with physical diseases, age and sex (total $R2 = 0.477$, $p < 0.05$), and MCS was predicted by diagnosis of MDE, functional abilities status, educational level, co-morbid with physical diseases, general anxiety disorder and panic attack (total $R2 = 0.156$, $p < 0.05$).

Conclusion: Elderly depression is related to occupational status, functional abilities status, co-morbid with physical diseases, and sedative abuse; as well as, significantly affects their quality of life in physical and mental aspects.

FC2-8

How pain and depression influence the quality of life in the elderly: A community-based study in rural Taiwan

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Aims: this study was to explore the prevalence, risk factors and quality of life (QoL) among elders with pain.
Method: A total of 4319 subjects was recruited from Hunei Township of Kaohsiung County to do the interview and diagnosis by using DSM-IV and PSQI. The subjects were divided into four groups. Group 1: elders without pain; group 2: elders with pain, but without physical diseases; group 3: elders with pain and phsical diseases, but without pain-related physical diseases; group 4: elders with pain and pain-related physical diseases. The analyses carried out were ANOVA, Chi-square and Multiple regression.
Results: Elders (57.4%) had a higher prevalence of pain than adults (16.8%)($\chi 2$ test, $p < 0.001$). In fact, female elders (27.6%) had a higher rate of pain relative to male elders (16.9%), whether they had physical diseases or not ($\chi 2$ test, $p < 0.001$). Sex, MDE, GAD, insomnia, functional abilities status(FAS), the severity of pain, pain causes trouble in ADL and co-morbid with physical diseases(CPD) were significant factors ($\chi 2$ test, $p < 0.001$) which affect elders with pain. The 8 domains, MCS, and PCS of SF-36 were significantly different between four groups. All SF-36 subscale scores, PCS and MCS were significantly lower in group 4 compared with the scores of other three groups (ANOVA, $p < 0.05$). The results of multiple regression analyses showed that PCS was predicted from six variables, i.e. age, MDE and GAD, pain, CPD and FAS(total $R2 = 0.703$, $p < 0.05$), and MCS was predicted by educational level, MDE and GAD, and pain(total $R2 = 0.236$, $p < 0.05$).
Conclusion: Elders had a higher prevalence of pain than adults. The pain for elders was related to sex, MDE, GAD, insomnia, FAS, CPD. Particularly, these factors significantly affect their QoL. In fact, pain was an independent factor that affecting QoL in PCS and MCS aspects.

FC2-9

Indicative signs of the contentment of an elder with his or her stay in a dementia-based daycare unit

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The purpose of this interpretive phenomenological study was to explore collaboration between families and staff in daycare units caring for elders suffering from dementia. The data collection was conducted at the only special daycare units for patients with dementia in and around Reykjavik (the capital of Iceland), of which there were three at the beginning of the study in 2003, with a total of 53 placements. One unit functioned under the auspices of the City of Reykjavik, the second under the auspices of the Alzheimer's Association and the third under the auspices of a private organization constituted by different alliances. Since then three additional units have opened in the area. The sixth unit was opened at the beginning of 2006, so the available placements have now more than doubled. All the units offer a stay of two to five days during a week, while most of the guests stay for five days. Data have been collected in longitudinal individual interviews with family (24 interviews with 8 family members), group interviews with staff (8 groups of staff, comprising 3–4 staff per group; in total 24 staff members), and participant observation. This paper presents findings from the study, which show that family and staff have different ways of interpreting the contentment of an elder with being cared for in this setting. Three themes reflect the family interpretation of signs that indicate contentment with the stay. These are: (a) willingness or unwillingness to attend, (b) expression about the people and the place, (c) air of content or discontent on return from daycare. The analysis showed that the staff, on the other hand, focussed on signs that indicated that the elder had found his or her footing in the unit. The themes that depict those signs are: (a) settling in, (b) being occupied, (c) sharing time and activities with others. The family and staff both refer to indicative signs of the contentment of an elder as they address his or her wellbeing, and the benefits of the daycare services for the particular person. There is a mutual respect for the other's party's interpretation of signs, but understanding of these themes can clarify the communication between the two parties. Such clarification can enhance collaboration between family and staff and potentially the care of the elder. Key words: daycare, dementia, contentment, family, staff.

FC3-1

The prevalence of depression and anxiety disorders in non-demented 75-, 85- and 95-year-olds from the same birth cohort

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Some studies report a decrease in the prevalence of depression and anxiety disorders in older age groups compared with younger, while a few studies report the highest frequency of depression and anxiety disorders above age 85. It has also been discussed whether a decrease of depression and anxiety disorders among the elderly could be an effect due to different birth cohorts, so that those born in the early 20th century would be more resistant to depressive and anxious symptoms. The aim of this study was to determine the prevalence of depression and anxiety disorders among non-demented 95-year-olds and to compare results with non-demented 75- and 85-year-olds from the same birth cohort. Three representative samples of non-demented elderly living in Gothenburg Sweden, born 1901–1903, were compared. The examinations were performed 1976–77 for the 75-year-olds (N = 303), 1986–87 for the 85-year-olds (N = 494) and 1996–98 for the 95-year-olds (N = 338). All participants were examined by psychiatrists using the Comprehensive Psychopathological Rating Scale (CPRS), a cognitive test battery and a physical examination. Dementia, psychotic, depressive and anxiety disorders were classified according to the DSM-III-R criteria, with minor modifications. We found the lowest prevalence of depression and anxiety disorders at age 75. Among non-demented, the prevalence of depression was 7% at age 75, 19% at age 85 and 17% at age 95 and the prevalence of anxiety disorders was 4% at age 75, 15% at age 85 and 9% at age 95. We did not find any difference between men and women in the prevalence of depression at any of the studied ages. For anxiety disorders we found a higher frequency in women than in men at age 75 (6% vs. 1%; $p = 0.056$) and at age 85 (18% vs. 8%; $p = 0.013$, but not at age 95 (10% vs. 9%; $p = 1.0$).In this birth cohort of elderly, we found the lowest prevalence of depression and anxiety disorders among 75-year-olds and a higher psychiatric morbidity among 85- and 95-year-olds. Our results show an increase in the prevalence of depression and anxiety disorders among the oldest old and do not support the hypothesis of those born in the early 20th century being more resistant to depressive and anxious symptoms.

FC3-2

The interaction between vascular disease and neuroticism in late-life depression: A cross-sectional study

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Research in late-life depression has primarily focused on the effect of vascular cerebral damage. In adult depression, however, independent effects of a variety of psychosocial vulnerability factors, like neuroticism and life-events and also their interaction, have been found. Based on the stress-vulnerability model of depression, we hypothesized that cerebrovascular disease (CVD) and neuroticism are both vulnerability factors for late-life depression. Furthermore, we expected them to interact causing additional depressogenic effects. A cross-sectional study was performed on community dwelling elderly (>70 years) in Nijmegen, the Netherlands. The primary outcome measure was depression (Center for Epidemiological Studies-Depression scale score 16 or over). Neuroticism was measured by the short version of the Eysenck Personality Questionnaire (range 0–12). Self-reported vascular disease, confirmed by medication use, was categorized according to the level of association with *cerebro*vascular disease: 1) presence of 3 or more risk factors, 2) a history of heart disease, and 3) a history of TIA/stroke. Neuroticism, vascular disease (dummy) and their interaction were modelled on depression by multiple logistic regression analyses, separately for males and females acknowledging sex-specific models for both depression and vascular disease. We included 742 patients (mean (SD) age 78 (7) years; 42% women) of which 24% was depressed. Neuroticism was strongly associated with depression in both sexes with an overall OR of 1.70 (95% CI: 1.49–1.94, $p < 0.001$). Only in males, heart disease (OR = 4.13, 95% CI: 1.26–13.5, $p = 0.02$) and TIA/stroke (OR = 7.25, 95% CI: 1.59–33.1, $p = 0.01$) were independent predictors of depression. Furthermore, in males, we found a negative interaction between neuroticism and both, heart disease (OR = 0.75, 95% CI: 0.57–0.98, $p = 0.04$) and TIA/stroke (OR = 0.69, 95%

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CI: 0.49–0.96, p = 0.03). We conclude that in our sample neuroticism is a strong independent predictor of depression in both sexes, whereas vascular disease only predicts depression in males. Contrary to our expectation, neuroticism seemed to neutralize the depressogenic effect of CVD in men. Possibly, high-neurotic men have a decreased doctors-delay in diagnosis and treatment of vascular disease preventing secondary cerebrovascular damage. Another explanation is the hypothesis of vascular apathy, which should be explored in a longitudinal design.

FC3-3

A longitudinal study examining the independence of apathy and depression after stroke: The Sydney stroke study

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There is emerging evidence from cross-sectional studies that apathy is not only a symptom of depression but is also an independent syndrome. The objective of this study was to investigate the overlap between apathy and depression at three and fifteen months after stroke and to evaluate the effects of dementia on both syndromes. Our hypotheses were that both apathy and depression would be relatively common after stroke, that and that apathy but not depression would be related to more severe cognitive and functional impairment. 164 consecutive eligible stroke patients and 100 age and sex-matched controls received extensive medical, psychiatric and neuropsychological assessments; a subset also received magnetic resonance imaging (MRI) scans. Comprehensive assessments included ratings for DSM major and minor depression and the Apathy Evaluation Scale (AES) at approximately four months (index assessment) and 15 months (follow-up assessment) after stroke. Controls were similarly assessed twice, 12 months apart. 106 patients had both depression and apathy ratings at both time points. At index, 10.4% of patients were depressed and 25.5% were apathetic and by follow-up, 17.9% were depressed and 30.2% apathetic. While there was no significant overlap between apathy and depression at index assessment (OR = 1.79, 95%CI 0.48, 6.66), the overlap was significant one year later (OR = 7.75, 95%CI 2.60, 23.13). In separate univariate logistic regressions, apathy at follow-up was associated with dementia at index and depression at follow-up was associated with dementia at index and not having a family member living with the patient. Using logistic regression with index depression as a covariate, dementia at index was predictive of depression at follow-up. Dementia at index, after correcting for index apathy, was also predictive of apathy at follow-up. However, neither apathy nor depression at index were found to be predictors of dementia at follow-up (correcting for dementia at index). We conclude that apathy and depression appear to be independent constructs at four months post-stroke but converge approximately 12 months later, possibly due to cumulative brain pathology and with dementia acting as a causal factor.

FC3-4

Combined effect of vision and hearing impairment on depression in older adults: Evidence from the English longitudinal study of ageing

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Background: No longitudinal study has been conducted to examine the relation between dual sensory loss and depression in older adults. The objective of this study was to examine the role of dual sensory loss in the onset and persistence of depression in older persons living in U.K.

Methods: The data used in this study was a 2-year, population-based, prospective, observational study of 3,782 older adults aged 65 and above selected from the English Longitudinal Study of Ageing Waves 1 and 2. Sensory loss in vision and hearing, 8-item CES-D, socio-economic variables, health indicators, and social support were assessed. We calculated the odds of ratio for any association between sensory loss and depression.

Results: Dual sensory loss (OR = 1.66, 95% CI 1.10–2.49; OR = 1.62; 95% CI 1.05–2.50) was associated with subsequent depression among those

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who were and were not depressed at baseline after socio-economic characteristics were adjusted for.

Conclusions: Aged care service practitioners must take this risk factor into consideration in their preventive intervention and treatment for depression in aged population.

FC3-5

Patterns of depression in elderly in a rural district of India

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Depression is a common disorder in older people. It is usually undiagnosed or under diagnosed in elderly due to atypical symptoms, masked depressive state, concominant physical disorders already present, multiple somatic symptoms, and associated agitation and psychotic features, and cognitive deficit of different degree. It is a source of enormous personal sufferings that invades living and pervades functioning and causes worsening of existing physical diseases, in spite of treatment. Depression in elderly thus often goes unrecognised and under treated. A total 164 elderly depressed patients seen in various wards and o.p.d were analysed.84 male and 80 female were seen in one calendar year 2004–05, were taken into account. They were then followed up for another year for outcome after a composite treatment. Common presenting symptoms were 1) sleep disturbance-85% 2) pain in head, neck, discomfort in head and burning-90% 3) fearfulness and beliefs of harm by others-64% 4) cognitive impairment, lack of memory, poor concentration,forgetfulness-64% 5) lack of apetite,dyspepsia-64% 6) multiple pains and aches in extremeties-48% 7) guilt feeling-72% 8) low mood-54% 9) tearfulness and crying-68% 10) irritability-80% 11) suicidal ideation-60%.chest discomfort and alcohol and substance abuse(mainly hypnotics)are some other common complaints revealed. Most common physical co-morbidity found were 1) hypertension and ischiemic heart disease, 2) diabetes, 3) rheumatoid and other arthiritis and osteo-arthiritis, 4) parkinsons disease, post c.v.a and other degenerative nerve disorders. Cancer, breast removal, colonostomy, chronic obstructive pulmonary disease, renal failure and post hysterectomy state are some other important co-morbid disorder-revealed. Combined anti depressant drugs and supportive psychotherapy produced a good result of excellent recovery in 33% cases. marked improvement in another 48% and 5 cases of death recorded in 1 year follow up period. Early diagnosis through awareness in physicians and early institution of antidepressant therapy brings a rewardable recovery in older depressed, and can recharge the wisdom for body, mind and spirit.

FC3-6

The course of depression in a population-based longitudinal study of older people

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This study describes the course of depression in a population-based sample of older people. This analysis was conducted in the Medical Research Council Cognitive Function and Ageing Study (MRC CFAS), a longitundial cohort study comprising 13004 individuals aged 65 and over from 5 sites across England and Wales. Following screening, a stratified random sub-sample of 2640 participants received the Geriatric Mental State (GMS) Examination. Diagnoses of depression were made using the Automated Geriatric Examination for Computer-Assisted Taxonomy system (AGECAT). Antidepressant use was also recorded at baseline. At 2-year follow-up 63% (n = 1651) of this sub-sample was successfully re-interviewed, and the GMS-AGECAT was administered again. Of those who completed both assessments, 20% received a diagnosis of depression at least one time point and 5% were depressed at both time-points. Antidepressant use at the baseline assessment was reported by 4% of the sample. Risk factors for the development and persistence of depression will also be discussed. Despite the high cumulative prevalence of depression in this cohort, the self-reported use of antidepressants at the baseline assessment was low, suggesting that older people with depression may not be receiving adequate treatment.

FC3-7

Depression among the very old with dementia

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The most common causes of emotional suffering in old age are psychiatric morbidities, particularly depression and dementia. Depression reduces both psychological well being as well as the social and functional capacity among those affected. The aim of this study was to investigate the prevalence of depression among very old individuals with dementia compared to those without dementia and to examine factors associated with these conditions. In a population-based study in Sweden, 363 participants aged 85 years and above, were evaluated for depression. Depression was screened for using the Geriatric Depression Scale-15. 103 persons, 28%, were having a dementia disorder. The prevalence of depression was significantly higher among the demented. Approximately 2/3 of the depressed in both groups used antidepressants and of those, approximately 50% had responded. Loss of a child/children was independently associated with depression among the demented. The present study confirms that among the very old depression are much more common among those with dementia and that depression among the demented has other associates than among the non-demented. A large proportion, in both groups, are under-diagnosed, untreated and non-responders.

FC3-8

Health behaviour, depression and religosity in older patients admitted with chronic diseases in post-acute intermediate care

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Background: Intermediate care is a treatment model that provides care for older people after acute treatment and bridges the interface between hospital and community care. Objective: To examine health behaviour, severity of depression, gender differences and religiosity in older patients admitted in post-acute intermediate care for further rehabilitation.

Methods: A research physiotherapist interviewed 173 older patients (113 female), aged 60 and older, and consecutively admitted to post acute intermediate care for further rehabilitation after acute care.

Measurements: Religiosity was measured using the Duke University Religion Index, depressive and anxiety symptoms were examined using the Hospital Anxiety Depression Scale, and severity of depression measured by the Montgomery Asberg Depression Rating Scale, physical disability was assessed by the Nottingham Extended Activities of Daily Living Scale and quality of life measured by the SF-36 questionnaire. Cognition was assessed using the Mini Mental State Examination.

Results: Mean (SD) of the older patients age was 80 (8.1) years. Controlling for other factors using multiple regression, religious attendance was associated with positive general health perception ($t = 1.9$, $p = 0.05$), and inversely associated with number of pack years smoked ($t = -2.05$, $p = 0.04$) and severity of illness (Charlson Index), [$t = -2.05$, $p = 0.04$]. Intrinsic religious activity was positively associated with older age ($t = 3.06$, $p < 0.003$), female gender ($t = 2.52$, $p = 0.01$), and inversely associated with living alone ($t = -2.17$, $p < 0.03$) and with less severe depression ($t = -2.43$, $p = 0.01$).

Conclusions: In older patients with chronic diseases in post acute care, religious attendance was associated with positive perceptions of health, less severe illness, and fewer number of pack years. Intrinsic religious activities were negatively associated with less severe depression and lower likelihood of living alone. Further study is required into the relevance of spirituality and religion on the health of older people with chronic diseases in United Kingdom.

FC4-1

Does serotonin augmentation have any effect on cognition and activities of daily living of patients with Alzheimer's dementia? A double-blind placebo-controlled clinical trial

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Recent studies suggest that cholinergic dysfunction does not provide a complete account of age-related

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cognitive deficits and other neuronal systems like monoaminergic hypofunction are involved. In several studies selective serotonin reuptake inhibitors demonstrated promotion in neurogenesis in the hippocampus and enhanced cognition.

The aim of this study is to survey the effect of serotonin augmentation on cognition and activities of daily living in patients with Alzheimer's disease. The trial was designed as a 12 week randomized, placebo-controlled, double-blind study. One hundred and twenty two patients aged 55 to 85 years, suffering from mild to moderate Alzheimer's dementia were randomly allocated in one of the three treatment group: fluoxetine plus rivastigmine, rivastigmine alone or placebo group. Efficacy measures comprised assessments of cognition, activities of daily living and global functioning. Hamilton Depression Scale also was used to assess changes in mood throughout study.

Fluoxetine plus rivastigmine and rivastigmine groups demonstrated improvement on measures of cognitive and memory without any significant difference; however, the former group did better in their activities of daily living and global functioning. Patients taking placebo had significant deterioration in all the efficacy measures.

Concomitant use of selective serotonin enhancing agents and acetyl cholinesterase inhibitors can provide greater benefit in activities of daily living and global functioning in patients with cognitive impairment. Although our study is preliminary and larger double blind studies are needed to confirm the results.

FC4-2

Integration of pharmacological and non-pharmacological treatments of dementia care in a psychiatric day hospital

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Background and objectives: To investigate the integration of pharmacological and non-pharmacological treatments in a psychiatric day hospital.

Method: Evaluate the pharmacological and non-pharmacological treatments in a psychiatric day hospital in Taiwan during May, 2007.

Result: 30 demented people were recruited in this survey. Male/female ratio was 2:3 and average age was 77.5 year-old. 40% of them were diagnosed as Dementia of Alzheimer type, 36.7% were vascular dementia, and 23.3% were other types of dementia. In the use of psychiatric medication, 23.3% of these demented persons did not receive any psychotropic drugs, 56.7% only received one psychotropic drug, and 20% received 2 or more than two psychotropic drugs. Non-pharmacological treatments included behavior therapy, reminiscence therapy, and art therapy. The use of psychotropic drugs did not have significant difference about their daily activities in the day hospital. Non-pharmacological treatments were likely to reduce the dosage of psychotropic drugs.

Conclusion: Care givers of demented people often suffered from their psychotic and behavioral disturbance rather than cognitive impairments. Except the more and more need of psychotropic drugs, integration of pharmacological and non-pharmacological treatments in the psychiatric day hospital might provide a better therapeutic model in dementia care.

FC4-3

Treatment gap among elderly epileptics in rural India

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Introduction: Epilepsy is still stigmatized in India. Divine forces/witchcrafts are believed as causative factors. Consequently, alternative rather than specialized allopathic treatments are sought. As evident from a pilot study. There exists a treatment gap of more than 90%. To minimize this, interventional strategies were worked out with community through a community based WHO-SEARO sponsored study to explore and judiciously implement strategies and assess its impact on treatment gap in Epilepsy.

Material and methods: Fifty one villages selected on stratified random basis from a town of Central India constituting a total population of 1,04,500 formed the study area. Ten percent of the total households were surveyed for identification of Generalized Tonic-Clonic Seizure (GTCS) patients. 418 households were also included through snow-ball technique, where known GTCS patients resided. A

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total of 12873 individuals from 2218 households included 981 elderlies aged 60 years and more. Among these elderlies, there were 11 GTCS patients with two or more episodes within last 6 months. Elderly epileptic patients were assessed on three occasions by home visits: (a) benchmark evaluation, (b) resurvey (after12 months) and (c) final follow-up (three months after resurvey) to assess extent of treatment gap. The specific strategies for reduction of treatment gap in epilepsy were worked out and implemented. Treatment gap reduction strategies were gradually diluted after re-survey.

Observations: The elderlies constituted 7.6% of the surveyed population. Majority of the patients were females, in the age group of 60–65 years, belonged to scheduled caste and illiterates. The period prevalence (up to 5 years) rate of GTCS was found to be 1.12%. At benchmark survey, treatment gap among elderly epileptic patients was found to be 90.9%. At re-survey, this gap was 45.4%. At final follow-up, the treatment gap was recorded as 63.6%. Thus, finally the overall treatment gap could be reduced by 27.3%. Reduction was more pronounced among males, non-earners, remote villages in the area and during active contact period.

Conclusion: It is possible to reduce treatment gap in epilepsy by adopting specific strategies at primary care level. The study sample being small, it does suggest hypotheses for larger study on elderly as well as non-elderly epileptics.

Keywords: Treatment gap, Reduction strategies, GTCS.

Patients were rated using the Clinical Global Impression Scale (CGI), Hamilton Rating Scale for Depression (HAM-D) and the Geriatric Depression Scale (GDS). Assessments were performed at baseline and on days 7, 14, 21, 28, 42, and 56. Side effects were recorded in a systemic manner. Thirty patients were included in the study, (17 women, 13 men; mean age = 75.9 years, range: 68–83) and all had completed the six-week trial. Mean dose of venlafaxine used was 165 mg/day (SD = 73.8; range 75 to 300 mg). Mean dose of paroxetine used was 26 mg/day (SD = 15.04; range 10 to 60 mg). Nine patients treated with venlafaxine (60%) and 5 patients treated with paroxetine (33%) remitted after eight weeks of treatment. Four patients treated with venlafaxine and 8 patients treated with paroxetine failed to respond. Significant improvement in HAM-D rating scores between baseline and endpoint were observed in both groups of patients. The mean HAM-D decrease for paroxetine was 12.5 and for venlafaxine 19.1 ($p < 0.05$). The mean GDS decrease for paroxetine was 3.2 and for venlafaxine 6.0 ($p < 0.3$). The mean CGI decrease was 2.3 for paroxetine and 3.5 for venlafaxine ($p < 0.05$). Venlafaxine was significantly superior to paroxetine on CGI and HAM-D measures. Side-effects were transient and did not differ between treatment groups. In conclusion, elderly depressed patients resistant to previous treatments had responded to a trial of paroxetine or venlafaxine. Remission rates were higher for venlafaxine and tolerability was acceptable for both compounds.

FC4-4

A randomized, single-blind, comparison of venlafaxine with paroxetine in elderly patients suffering from resistant depression

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It is estimated that up to 45% of patients with depression do not have an adequate response to a first trial of antidepressant therapy with even higher reported rates for the elderly. We aimed to compare the efficacy and the tolerability of venlafaxine versus paroxetine in elderly patients suffering from resistant major depression who did not respond to at least two previous adequate trials of antidepressants. Patients entered an 8-week single-blind study.

FC4-5

Risk profiles of psychiatric hospitalization in older and younger patients with bipolar disorder

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Bipolar disorder is a significant cause of morbidity, mortality, and costs society at least $45 billion annually in the United States alone. However, Little work has been done to develop risk profiles for salient clinical events such as psychiatric hospitalizations, particularly in older adults. Risk profiles provide clinicians with predictive information and suggest areas of focus for additional treatment and service development. We sought to develop risk profiles of

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psychiatric hospitalization of younger and older patients with bipolar disorder. This retrospective study included 2,148 veterans with primary or secondary diagnoses of bipolar disorder in the VA Health Care System of the Veterans Integrated Service Network 21 during the 2004 and 2005 fiscal years. Our study included 739 older (age 60 or greater) adults patients and 1,409 younger (age 59 or less) patients with bipolar disorder. Our profiles were derived from psychotropic medication usage and demographic factors in a dataset derived from the Veterans Affairs Health Care System (Service Network 21) during the 2004 and 2005 fiscal years. We developed risk profiles using objective and quantitative factors such as psychotropic medication prescriptions, age, and gender. A Receiver-Operating-Characteristic was to create the risk profiles. In the older group of patients, 14% had at least one psychiatric hospitalization, compared with 20% of the younger patients. The greatest risk of hospitalization in older veterans was associated with prescriptions for lithium and atypical antipsychotics (49%). In contrast, increased risk of hospitalization in younger patients was associated with prescriptions for tricyclic and other antidepressants, but not with atypical antipsychotics (64%). The lowest risk of psychiatric admission in older veterans was associated with no prescription for atypical antipsychotics (7%). Paradoxically, prescriptions for both atypical antipsychotics and lithium were significantly associated with psychiatric hospitalizations older patients. These data may reflect disease course and severity over the lifespan as well as prescribing patterns of psychiatrists within the healthcare system.

FC4-6

Excessive polypharmacy as a potential predictor for mortality in home-dwelling elderly persons

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Background: The occurrence of polypharmacy (6–9 medicine in use concomitantly) and excessive polypharmacy (≥10 medicine in use concomitantly) is alarming in frail elderly populations. The concerns are mostly due to increasing amount of medicines related errors. Moreover, the changes in pharmacodynamics and -kinetics makes elderly persons especially vulnerable to harmful drug effects.

Objective: The aim of this study was to determine whether excessive polypharmacy predicts mortality in elderly persons.

Material and methods: The initial sample of Kuopio 75+ Study consisted of 700 participants aged 75 years and older living in the City of Kuopio, Finland (sample frame N = 4518). The participants attended a structured clinical examination in 1998 and 2003. The current medication was recorded on basis of medicine containers and prescriptions during the interview conducted by a trained nurse. For the purpose of this paper, two separate survival analyses were done for home-dwelling elderly persons who had some medication. The first cohort consisted of 523 subjects aged 75 years and older. Their survival was followed for five years from the first examination in 1998 until death or the end of year 2002. The second cohort included survivors (n = 284) who were at the age of 80 years and older at the time of examination in 2003. From this time point, their survival was followed for four years until death or the end of the year 2006. The dates of deaths were derived from the Statistics Finland.

Results: Mortality rate was 30% in the first and 25% in the second analysis. The Kaplan-Meier survival curves showed in both analyses that the more medicines home-dwelling elderly persons have in use the higher are mortality rates. In Cox proportional hazard model for subjects aged 75 years and older, the risk for death after adjusting for age and gender was increased 17% in polypharmacy and 51% in excessive polypharmacy group compared with non-polypharmacy group (1–5 medicines in use concomitantly). Correspondingly, among 80 years and older subjects with polypharmacy the risk was increased 73%. In this age group, the highest mortality rate (HR 2.90, 95% CI 1.5–5.6, adjusted for age and gender) was found for persons with excessive polypharmacy.

Conclusions: Excessive polypharmacy seems to be a predictor of mortality in home-dwelling elderly persons. More emphasis should be paid to optimization of medication in order to avoid unnecessary polypharmacy and possible serious adverse effects.

FC4-7

Use of drugs among Finnish centenarians with special emphasis on use of psychotropics

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It is well known that the use of drugs increases with advancing age. Based on our previous findings in Finland, the increase continues to a very advanced age, e.g., the peak for antidepressants being reached around the age of 85 years, that for antipsychotics close to 90 years, and that for hypnotics among male centenarians. In this study, we aimed at describing the use of drugs among Finnish community-dwelling centenarians, especially the use of psychotropic drugs.

In Finland, there were 347 persons aged 100+ years (0.07 promilles of the total population) on Dec 31, 2005. The population for this study consisted of those centenarians who were dispensed at least one prescription according the National Prescription Register (NPR) between Jan 1 and Dec 31, 2006. The NPR, managed by the Social Insurance Institution, records all purchases of drugs reimbursed to permanent, non-institutionalized residents of Finland. The register does not contain information on drugs sold over-the-counter, non-reimbursable prescription drugs (e.g., non-steroidal anti-inflammatory drugs and hypnotics sold in small packages) or drugs used in institutions (e.g., in hospitals or communal long-term care). The drugs were classified using the Anatomical Therapeutic Chemical (ATC) codes.

During the 1-year period, 137 centenarians received 1+ prescriptions recorded in the NPR. Of them, the great majority (75%) used drugs for cardiovascular system, most commonly diuretics (59%), betablockers (28%), and organic nitrates (26%). The second most commonly used drug group was drugs for nervous system (56%), followed by anti-infectives for systemic use (45%) and drugs for alimentary tract and metabolism (42%). More than every third (36%) centenarian used psychotropic drugs, most commonly hypnotics and sedatives (26%). Large packages (100+ tablets) of benzodiazepines were purchased about as commonly as benzodiazepine-like sleeping pills (12% vs. 14%). About every tenth used antidepressants (11%), antipsychotics (9%), and anxiolytics (8%).

Of the various psychotropics, hypnotics were most commonly used by the centenarians. Since the small package sizes are not reimbursed, the use of hypnotics must be even more common than observed here, although the majority of the elderly users evidently take them on a regular basis. This is in contrast with the current recommendations, which emphasize the short-term nature of drug treatment for insomnia.

FC4-8

Medicines to be used with caution in the elderly; patterns of use in Australian war veterans

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Beers criteria or the McLeod et al are the most common criteria used to identify medications, doses, frequencies or durations of use of medications that should generally be avoided in the elderly. Use of potentially inappropriate medicines is associated with increased rate of cognitive decline, increased hospitalisation and death rates, higher mean number of inpatient, outpatient and emergency department visits and self-reported poorer health status. This study aimed to examine the extent of potentially inappropriate medicine, as defined by explicit criteria, dispensed to Australian veterans aged 70 years and over. The Department of Veterans Affairs Pharmacy Claims database contains details of all medicines dispensed to veterans for which DVA pays a subsidy. We undertook an analysis of that database for the first 6 months of 2005, identifying the number of veterans, aged >70 years at Jan 1st 2005 and who were still alive at June 30th 2005, and the proportion who were dispensed at least one potentially inappropriate medicine between across that timeframe. Subgroup analyses by age were undertaken to compare prevalence in the older age group, 85 years and above compared with the 70–84 year population. There were 192,363 veterans aged 70 years or over at 1 Jan 2005: 52.6% were male and 47.4% female; mean age was 81.7 $\pm$ 4.8 years. These veterans averaged 8.5 prescriptions dispensed per month, with each veteran dispensed, on average 12 unique medicines. 21% were dispensed at least one potentially inappropriate medicine in this time period. Long acting benzodiazepines, amitriptyline, amiodarone, oxybutynin and doxepin were the medicines most commonly implicated. There was no difference in

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the prevalence of potentially inappropriate medicines prescribed to the 70 to 84 age group compared with the 85 and over age group. A lower prevalence was seen in the oldest age group for amitriptyline, indomethacin, high dose naproxen, ketoprofen and piroxicam, as well as clonidine, however, a higher prevalence was observed in the oldest age group for oxybutynin, nitrofurantoin and amiodarone ($p < 0.001$).This study is the largest Australian study conducted assessing the level of potentially inappropriate medicine dispensed to persons over 70 years of age. These results are disturbing and once again reaffirm the need for more to be done to prevent adverse drug events.

FC4-9

The effect of intensive cholesterol-lowering therapy on the neurocognitive decline of elderly patients with atrial fibrillation

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Elderly patients with atrial fibrillation (AF) have a three-fold risk for cognitive decline and even dementia despite adequate oral anticoagulation (OAC). Purpose: to investigate the effect of anti-inflammatory therapy by intensive cholesterol lowering with atorvastatin and ezetimibe on neurocognitive decline, depression and cerebral white matter lesions (WML) in elderly AF patients, who are under OAC (INR 2.5–3.5).

Methods: 32 elderly patients (mean age: 74 years) with AF (mean duration: 14.41 years) and adequate OAC, completed a one year prospective pilot study with a double-blind placebo-controlled design. The intervention group received a combination of atorvastatin (40 mg) and ezetimibe (10 mg). Patients were examined on an extended neuropsychological battery (testing memory, language, speed of information processing and executive functioning), the Montgomery-Asberg Depression Rating Scale (MADRS) and by MRI, at baseline and one year follow-up. Cholesterol levels and inflammatory markers were assessed at 0, 1, 3, 6, 9 and 12 months.

Results: Patients were asymptomatic in daily functioning and had a general cognitive screening (MMSE) without impairments. However, in more specific neurocognitive tests, patients showed significant slowing in speed of information processing at baseline. There was significant improvement in the intervention group on speed of information processing ($p = .003$), memory ($p = .028$), and executive functioning ($p = .015$). No clinically relevant depression was found (baseline or endpoint). Over a year, a volume decrease in the WML in the treatment group was found versus a volume increase of the WML in the placebo group. WML and higher hs CRP values were found to be correlated at baseline ($p = .068$). A significant decrease in hs CRP was found over a year ($p = .003$), which correlated with improvement in speed of information processing ($p = .021$).

Conclusions: elderly AF patients, despite adequate oral anticoagulation therapy, have worse cognitive functioning than healthy elderly. Significant improvement is found in speed of information processing, memory and executive function after one year of additional, intensive cholesterol-lowering treatment with a combination of atorvastatin (40 mg) and ezetimibe (10 mg). The results underscore the importance of neurocognitive testing for clinical evaluation in elderly AF patients. Treatment with anti-inflammatory drugs could possibly inhibit or postpone cognitive decline in AF patients using OAC.

FC5-1

Ethical issue in the elderly forensic psychiatry

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We discuss about psychiatric and psychological expertise exams, demanded in such cases by the civil or criminal courts of law and the assessment of competence in dementia and ethical aspect of care and research in elderly demented people. We also refer to the complications and difficulties when trying to apply the civil commitments compulsive hospital admission measure, foreseen in the law for mental health, when the dementia diagnostic falls within this age group. Historically, involuntary commitment of incompetent patients took in the consideration the best interest of the patient, but also the well-being of the family and the potential risk for others. After a short review of legislation and of conditions

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of hospitalization concerning involuntary commitment of the mentally ill people during our history before and after 1989, we'll analyze the activity on involuntary commitment in a Forensic Psychiatry Hospital in district Bihor, in last five years from a 30 years experience working in the field. Standards and practice in our country regarding the involuntary commitment have been changed more that three times after the second War and has been improved in 2002, when there appeared the new Mental Health Law, emphasizing protection of patients' rights. There are legal and ethical limits to involuntary hospitalisation, because involuntary treatment and hospitalisation restricts a person's liberty. There should be a lot of things to do to improve the quality standards: improvement of elementary care needs, improvement of their quality of life.

FC5-2

Dealing with patient decision-making incompetence: Ethical and legal issues

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Respecting and promoting patient autonomy is an important principle in health care, also in the field of psychogeriatrics. Legal and ethical norms require health care professionals both to abide by the informed decisions of competent patients and to involve incompetent patients as much as possible in the substitute decision-making that will take place for them. As opposed to incompetent patients, competent patients have the final say as to whether or not they will undergo the treatment proposed by the health care professionals. Competence is a necessary condition for legally valid decision-making by the patient. The law attaches detailed legal consequences to patient competence versus incompetence. Criteria ought to enable health care professionals or other persons involved in competence assessment, to distinguish between patients who are and patients who are not capable of making a specific decision.

Therefore, several criteria for assessment of patient competence have been suggested in the literature. These criteria vary from preferential standards to outcome standards and process standards. Some researchers have even developed tests or test-like instruments that could support such assessment. Each criterion or test, however, has its own disadvantage, e.g. denying the problem at stake, substantial biases, unrealistically high demands, and ignoring the individual circumstances of the actual case. Besides, the activity of competence assessment forces the health care professional into a legal role, which may be detrimental to the quality of his professional behaviour. In order to overcome these disadvantages, the author recommends health care professionals of patients with questionable decision-making competence not to concentrate on competence assessment at first, but to focus on the so-called dual strategy instead. This approach instructs professionals to strive for finding a shared health care policy that meets with the approval of patient *and* trusted family members or other potential representatives.

FC5-3

Capacity to make treatment decisions in Chinese patients with mild and very mild dementia

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Background and objectives: Mental capacity is central in making a valid informed consent. Patents with dementia may lack mental capacity to treatment at an early stage. Cultural factors may limit the applicability of existing mental competence assessment tools. The objectives of this study are to investigate the mental capacity, and to evaluate applicability of semi-structured interview method in Chinese patients with mild dementia.

Methods: Sixty – six Chinese community – dwelling older adults (aged from 65 to 87) were recruited. Clinical diagnosis was made by experienced psychogeriatricians. Participants with significant communication difficulties were excluded. Assessments included Clinical Rating Scale (CDR), Mini – Mental State Examination (MMSE) and Neuropsychiatry Inventory. Anti – dementia drug treatment was explained to all participants. Mental capacity to consent to treatment was independently assessed by using the Chinese version of the MacArthur Competence Assessment Tool – Treatment (MacCAT – T) and clinician rating (based on the definition of "inability to make decisions" in the Mental Capacity Act 2005 of the United Kingdom). Inter – rater reliability of these methods and relationship

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between the clinician ratings and different dimensions as measured by the MacCAT − T were assessed.

Results: Thirty four (51.5%) of our participants were diagnosed to have very mild or mild dementia (CDR = 0.5 or 1). The mean MMSE score of this patient group was 22.74 ± 4.99 and was significantly lower than that of cognitively intact group (CDR = 0). Among this patient group, 15 (45.45%) was found to be mentally incapable to consent in the clinician ratings. Clinician ratings on mental capacity correlated significantly with all dimensions as measured by the MacCAT − T, years of education, CDR and MMSE scores. Regression analysis suggested that the CDR score was a major predictor for the mental incapacity as measured by the clinician rating.

Conclusions: Significant correlation with cognitive impairment as measured by the MMSE scores in our study is consistent with Western studies. While mental capacity to consent to treatment may be impaired in an early stage of dementia, a significant proportion of them are able to make competent treatment decision. Proper assessment and documentation of their mental capacity is necessary. The use and applicability of the MacCAT − T in the Chinese elderly population is supported.

FC5-4

Dementia and cognitive impairment in an Indigenous Australian population - Increased prevalence and different patterns of risk factors

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Australian Indigenous populations have the worst relative health outcomes of Indigenous populations in the developed world. The health of older Indigenous Australians has received limited attention and there has been no previous community based study of dementia amongst Indigenous Australians.

The objectives of this study were to determine the prevalence of dementia and cognitive impairment and evaluate associated risk factors in the remote Kimberley Indigenous population, and compare with the non Indigenous Australian population.

The Kimberley is the northern most region of Western Australia. 363 Indigenous participants aged over 45 years from seven communities were assessed with the Kimberley Indigenous Cognitive Assessment (KICA). The KICA has been previously validated for use in this population. A proportion of the participants were reviewed by a clinician blinded to the KICA results and consensus diagnoses were made by two independent specialists using DSM-IV and ICD-10 criteria.

The prevalence of dementia in the sample was 12.4%, 4.8 fold greater than the Australian prevalence and 21 fold greater in the 45–59 year age group. The prevalence of cognitive impairment not dementia (CIND) was 7.4%. The most prevalent type of dementia was 'dementia not otherwise specified' at 53% of all dementia diagnoses, followed by dementia of the Alzheimer's type, vascular dementia, alcohol induced persisting dementia and dementia due to multiple aetiology. Males were more likely to have cognitive impairment than females with an adjusted odds ratio of 5.9 (95% CI: 2.26, 15.27). Other significant associated factors were age, previous stroke, falls and epilepsy. Head injury was an additional risk factor for cognitive impairment in males.

The prevalence of dementia is much greater in Indigenous than non Indigenous Australians, particularly in younger age groups. The predominance of risk factors such as male gender and stroke reflect the underlying aetiology for cognitive impairment in this remote Indigenous population. This study highlights the need to develop and evaluate Indigenous specific dementia services in Australia.

FC5-5

Effects of attitude towards aging on mental health of aging Chinese: An international comparison

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This study examined the effects of attitude towards aging on health and mental health of the aging population. A mixed purposive and random sample of 4,280 elderly Chinese 55 years or older in Hong

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Kong, Guangzhou, Taipei, seven cities in Canada, and 3 cities in the U.S took part in the study by completing a structured questionnaire on health and well-being. Attitude towards aging was measured by five researcher constructed statements asking the participants to agree or disagree along a 5-point scale. Mental and physical health was measured by a Chinese version of the Medical Outcome Study 36-item Short Form (SF-36). Socio-demographic confounding factors included age, gender, marital status, education level, financial adequacy, social support (i.e. having a confidant/someone to provide care if ill or disabled), living arrangement, work status, and geographical location. Hierarchical multiple regression analysis was used in data analysis so that the effects on attitude on aging on the total variance in health and mental health can be identified. Attitude towards aging was significant in predicting both health and mental health when controlling for socio-demographic variables. Predicting effect of attitudes towards aging on mental health was stronger than physical health. Intervention focus of practitioners should be about creating and maintaining a social/community environment facilitative for building a positive attitude towards aging, for the elderly and the general public. Individual counselling and preventive mental health practice should focus on building positive views towards aging by aging adults.

FC5-6

Exploring the experiences and needs of the person with dementia: A cross-cultural qualitative study

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Only one in six older people with dementia access specialist health care in the United Kingdom and members of ethnic minority groups are even less likely to benefit from available services or interventions. The potential barriers and facilitators to accessing services have primarily been viewed from the perspective of the caregiver. People with dementia have been likened to 'hidden victims', not because of the effects of the disease, but because their experience has been largely ignored. However, it is vital that we listen to the fears and wishes of this population if we are to make services more responsive, flexible, and individually based. The needs and preferences of people with dementia within ethnic minority groups remain largely unknown. We conducted a qualitative study to explore the attitudes and beliefs of older adults surrounding dementia, their coping strategies and attitudes towards informal and formal support. Thirty-one in-depth individual interviews were undertaken with older people with dementia. This study was unique in adopting a multicultural approach that incorporated the perspectives of 11 black Caribbean, 9 south Asian and 11 white British older adults. We found that memory problems were often dismissed as insignificant if they were not felt to interfere with everyday tasks. South Asian participants were rarely conscious of the progressive nature of dementia and there was pervasive confidence in the presence of family support. Offers of help from health and social care professionals were often interpreted as undermining this. Black Caribbean participants frequently identified themselves as highly independent and were more likely to lean on friends than family for support. Many expressed fear regarding future support needs and care homes existed in their minds as the solitary, yet undesirable alternative. They were the most inclined to acknowledge memory difficulties in the early stages of the disease. White British older adults demonstrated particular concern about irritating or upsetting their spouse. Many were embarrassed by their memory problems and consequently withdrew from interaction with others. The majority of participants viewed GPs as irrelevant to their situation, yet many valued the varied health and social services that they had enabled them to access. Social services such as day-centres, meals on wheels, and home help were generally considered acceptable if they did not challenge independence and valued roles in the family.

FC5-7

Barriers and facilitators to accessing services for depression: A cross-cultural study of the beliefs of older adults

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Depression is the most common mental disorder of later life, associated with profound decrease in quality of life, high levels of family burden, and suicide. However, it is estimated that only 10–20% of this population are prescribed antidepressants. Research indicates similarly high levels of depression among south Asian and black Caribbean older adults in the United Kingdom, yet they appear to have even lower levels of service use. The process of help seeking and accepting is complex and poorly understood. This qualitative study sought to explore how older adults conceptualise depression and appropriate help, and how these beliefs may facilitate or deter older people from accessing treatment. In-depth individual interviews were conducted with older adults with depression (treated and untreated) and the non-depressed older population. A multicultural approach was used that incorporated the perspectives of 32 black Caribbean, 33 south Asian and 45 white British older adults. White British participants tended to describe depression in terms of low mood and hopelessness and identified bereavement as the primary cause. They longed for, but did not expect family contact, and emphasized the importance of socializing and activity. Black Caribbean participants frequently defined depression as "feeling low" and complaints of loneliness dominated their responses. They stressed the cathartic value of communicating with God and of discussing concerns with peers and professionals. South Asian participants used the term "thinking too much" to describe depression, which they attributed to worry about the family and weakness of character. They felt that it was the individual's responsibility to socialise and lead an active life, but identified family support as the best form of help. The findings suggest that culturally appropriate inquiries about recent life events could facilitate discussion about depression. Care professionals must also be sensitive to the language of depression used by the different ethnic groups. Black Caribbean and white British older adults appeared willing to discuss their emotional state, but did not view this as appropriate in a medical consultation. Older adults need to be reassured that this is a valid use of health professionals' time. Participants uniformly advocated self-help, and practitioners should encourage efforts to interact and remain active. However, public education campaigns must communicate that depression often necessitates formal help.

FC5-8

Does dementia exist in India's – 10/66 dementia research group

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Aims: 1. To estimate prevalence of dementia and its impact in an Indian population. 2. To explore potential factors associated with caregiver recognition of symptoms of dementia.

Method: A one phase community based cross-sectional survey was carried out of all participants (N = 2004) aged 65 and over in well defined catchment areas in urban (Chennai) and rural (Vellore) districts in Tamil Nadu, south India. All participants were assessed in their homes with Geriatric Mental State, the Community Screening Instrument for Dementia (CSID – cognitive test and informant report), CERAD animal naming and word list learning task with delayed recall, a comprehensive informant interview, socio-demographic and risk factor questionnaire, physical and neurological examination. The dementia diagnosis was made using the algorithm developed by 10/66 dementia research group, and by the application of DSM IV criteria.

Results: The overall prevalence of 10/66 dementia was 8.9%, increasing with age and decreasing with higher educational level. DSM IV dementia prevalence was only 0.85% – lower even than in previous studies in India. In both Indian centres the correlation between objective tests of memory impairment, and informant reports of impairment (needed for DSM IV diagnosis) was much weaker than in other 10/66 centres. The validity of the 10/66 diagnosis was supported by other findings – after adjusting for potential confounders, 10/66 dementia was strongly associated with age, illiteracy and family history of dementia. People with 10/66 dementia are 11.7 times more likely than others to need care much of the time and their family members are 10.4 times more likely to have cut back on work to care.

Conclusion: While the prevalence of 10/66 dementia is similar to that in other world regions, that of the more restrictive DSM IV dementia is much lower.

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More work is needed on the relative validity of these two approaches. Methods relying on informant reports of social/ occupational impairment may underestimate the true prevalence due to low levels of awareness and possible underreporting of significant problems. Alternatively, the wider availability of support for older people may mean that dementia does not present as a difficulty in the early stages of the disease process.

FC6-1

Neuropathology of older patients with normal cognition

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Background: The major neuropathologic changes associated with Alzheimer's disease (AD) also occur within brains of nondemented elderly people. The distribution of lesions is the same in both conditions but current literature states that senile plaques (SP) and neurofibrillary tangles (NFT) occur with much lesser extent in cognitively intact individuals.
Objective: To investigate the extension of typical neuropathological findings of AD in cognitively normal elderly subjects.
Methods: A post-mortem study evaluating patients aged 80 years or older included in the Aging Brain Project from University of Sao Paulo, Brazil. Cognitive evaluation was gathered with a semi-structured interview with a knowledgeable informant using the Clinical Dementia Scale (CDR) and the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE). Patients with CDR 0 and IQCODE scores less than 3.20 were considered as cognitively normal. Immunohistochemestry techniques against hyperfosforilated-tau (PHF-1, gift of Dr. P. Davies) amyloid (4G8 – signet) were used to establish neuropathological diagnose. Braak classification and The Consortium to Establish a Registry for Alzheimer's Disease (CERAD) criteria were used.
Results: A total of 26 subjects were evaluated, being 69.2% women. The mean age and scholarship of the sample was 84.4 and 4.6 years, respectively. 19.2% of the subjects evaluated had advanced stages of neuropathologic changes on Braak classification, having stages IV to VI and NFTs present in one or more cortexes. 23.1% individuals had frequent distribution of senile plaques in one or more cortexes, according to the CERAD criteria.
Conclusion: High burden of typical AD pathology can be manifested in approximately one fifth of cognitively intact elderly individuals.

FC6-2

European psychiatry and religion: An unholy alliance?

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Since the era of rationalism, religion has lost its public influence in a secularized society. During the rise of medicine as natural science, psychiatry was eager not to be labelled as soft art. As a consequence of Sigmund Freud, who spoke of it as a collective psychosis, religion as a scientific subject was banned from research and academic teaching. Religion in psychiatry could only survive as a pathological condition, for example as religious megalomania, ideas of sins or religious determined delusion of guilt. In their daily work mental health specialists are confronted with these religion-relevant pathogenetic factors. Positive religious impacts on mental status, comparable with the effect of sports, healthy nutrition on physical and mental health, are neglected, often as a result of lack of knowledge. Broader application of brain imaging starting in the Eighties made sure that psychiatry was finally accepted in the community of the evidence based medical disciplines. Unlike the United States, where a salutogenetic approach to mental health necessarily has to consider the spirituality of the individual, in Europe the study of the influence of religion on the mental condition of psychiatric patients is until now considered as not scientific. This oral presentation shows studies of the referent (psychiatrist, religious scientist and anthropologist) in South East Asia and Germany, which compares the impact of religious coping on the resilience of elder people. Especially in patients, where resources like integration in a peer group, meaningful activities, or body integrity are becoming less available, a sense of transcendence of the present situation, can be a strong power in recovering from suicidal or depressive crisis. It could be demonstrated, that religiosity or spirituality has

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to be more than visiting a temple or church, but a source of hope and relief in times of misery. As religious coping generally is divided in a positive and negative form, tests have been developed to differentiate effects of belief on mental state, psychoneuroimmunology has tools to validate belief-dependent modulation on immunological bases.

Conclusion: Psychological parameters (acceptance, ability to let things go of, calmness) deriving from different religious backgrounds (Christian versus Buddhist) have to be considered, with the emphasis that gerontopsychiatry should not neglect religion as a resource in elder patients.

FC6-3

Clinical determinants for depression in elderly patients with chronic obstructive pulmonary disease

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Background: Chronic obstructive pulmonary disease (COPD) is the fourth cause of morbidity and mortality in the developed world. Depression has been shown to be a major modulator for the quality of life, readmission rates, and mortality in patients with COPD. Yet very few studies have examined the predictors for depression in COPD, particularly during late life. This study examines such determinants in the physical, psychological, socio-demographical and personality domains of elders with COPD.

Methods: A prospective cohort of 149 patients aged 60 or over were consecutively recruited from a university-based clinic specialized in COPD care. They were examined for the presence of depression (defined as scoring above the 7/8 cut-off point on the locally-validated Geriatric Depression Scale). Data were collected concerning each subject's socio-demographical characteristics, physical co-morbidities, disease burden, functional level, rate of recent hospitalizations, social support, rate and nature of life events in the past 2 years, and lung function tests results and other COPD severity indexes. They were also examined with the Mini-Mental State Examination (MMSE) on their cognitive level, the NEO Five-Factor Inventory (NEO-FFI) on their personality characteristics, and the St. George's Respiratory Questionnaire (SGRQ) on their health-related quality of life.

Results: Fourty-four (29.5%) of the subjects are identified as depressed. Multivariate logistic regression revealed the factors that distinguished depressed subjects from their non-depressed counterparts included higher neuroticism on the NEO-FFI (OR = 1.37, 95% CI 1.21–1.54, $p < 0.001$); poorer performance on the Physical Self Maintenance Scale (PSMS; OR = 1.22, 95% CI = 1.02–1.46; $p = 0.03$); age (OR = 0.92, 95% CI 0.84–0.99, $p = 0.04$) and living in solitude (OR = 5.23, 95% CI 1.34–20.42, $p = 0.02$). Quality of life in depressed COPD patients is significantly poorer on the SGRQ-total score ($t = 5.61$; df = 135; $p < 0.001$) and the presence of depression predicts 25.9% of the variance of this measure.

Discussion: While reaffirming that depression contributes significantly to the morbidity of COPD, the findings of this study help to identify high risk subgroups in elderly with COPD for turning depressed. Strong associations between neuroticism and depression in COPD patients provide new understandings on the pathogenesis of their psychiatric problems and may pertain to the development of more effective psychological treatments.

FC6-4

Outcome of a sequential treatment strategy in severely depressed elderly inpatients

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Objective. To study the effectiveness and feasibility of a sequential treatment protocol in elderly depressed inpatients.

Methods: All patients from a 12 week double-blind randomized controlled trial (RCT) who did not respond to venlafaxine or nortrity line, were treated with an open sequential treatment protocol including augmentation with lithium, switching to phenelzine and ECT.

Results: 78 of the 81 patients (96.3%) achieved a response (50% reduction in MADRS score) and 67 patients (82.7%) a complete remission, defined by a final MADRS score of 10 or less. Only severity and duration of the depression at baseline predicted poor

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recovery. Lithium is the most effective treatment strategy, while phenelzine is not effective.

Conclusions: Our study demonstrates the importance of persisting with antidepressant treatment in elderly patients who do not respond to the first or second trial of treatment.

FC6-5

Further validation of the Rowland universal dementia assessment scale in different populations

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The Folstein Mini Mental State Examination (MMSE) is the most widely used screening tool for dementia in Australia. The MMSE has significant limitations in multicultural and poorly educated populations. The Rowland Universal Dementia Assessment Scale (RUDAS) was designed to overcome these impediments. The previous validation studies of the RUDAS were performed in Sydney in similar populations to those from which the tool was developed. This study was designed to further test the RUDAS in populations in different cities (Melbourne and Adelaide) and in populations with a broad range of cognitive function, including those with mild cognitive impairment. One hundred and fifty one people met the study inclusion criteria and completed the assessment process. Participants completed a series of cognitive assessments and measures of function and depression, in addition to the RUDAS, MMSE and GPCOG (General Practitioner assessment of Cognition Scale).Each patient was assessed by a geriatrician or other medical practitioner for a dementia diagnosis. The medical staff also performed the MMSE and GPCOG assessments. A research officer did the RUDAS assessments in a blinded fashion. Accuracy of prediction of cognitive impairment against the gold standard of the DSMIV classification was high for the three screening tools, and there were no significant differences between the tools (RUDAS Area Under Curve [AUC] 0.88, MMSE AUC 0.86, GPCOG AUC 0.90). The positive and negative likelihood ratios of each tool were also similar (RUDAS 7.3 and 0.3 respectively, MMSE 5.5 and 0.4 respectively, GPCOG 4.6 and 0.1 respectively). Multifactorial logistic regression identified that each of the three cognitive screening tools was a significant predictor of cognitive status (based on the DSMIV classification) after adjusting for other covariates. This study finds the RUDAS to have high predictive accuracy in a broader population sample, which included other settings (Melbourne and Adelaide) and a range of cognitive function (including mild to moderate cognitive impairment). The RUDAS performs at least as well as the MMSE and the GPCOG, but with the added advantage of being simpler to use in a multicultural population.

FC6-6

Working memory and intelligence in dementia

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In order to accomplish performances such as verbal processing, problem solving and mental calculation, it is necessary to integrate what each focal area has processed, which is the function of Working Memory (WM). WM consists of two subsystems and one supervising control system called the central executive. The central executive plays a controlling role in distributing the limited capacity to retain information in each subsystem, as well as integrating information obtained from each subsystem. Namely, WM is involved in maximizing the limited brain capacity for retention and processing of information in parallel. WM is regarded to have relationship with fluid intelligence. Intelligence measured by Wechsler's Adults Intelligence Scale-Revised (WAIS-R, 1990) is divided to "crystallized intelligence" and "fluid intelligence". The crystallized intelligence is said to be accumulated as getting older. On the contrary, fluid intelligence is said to be diminished as getting older or by a brain injury. We investigated these deficits of intelligence in dementia in light of the relationship with WM. We studied twenty-five patients, including eleven with

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probable Alzheimer's Disease; fourteen with Frontotemporal Dementia. All gave their informed consent prior to the study. Patients' ages ranged from fifty-five to eighty-four years (mean ± SD, 71.2 ± 7.4); nine were male and sixteen were female. The average years of education ranged from six to fourteen (mean ± SD, 10.1 ± 2.1). WAIS-R for measuring intelligence and Reading Span Test (RST) for measuring WM were administered. The correlations between WAIS-R and RST differed depending on dementia severity and type. As dementia became more severe, there was no correlation between WM and fluid intelligence. However, as dementia became milder, there was a correlation, which was similar to that in normals. Moreover, crystallized intelligence along with fluid intelligence was deteriorated in more severe dementia, but this was not the case in milder dementia. From these findings, it was speculated that, as WM is said to be closely related to fluid intelligence, WM would be secondarily affected by crystallized intelligence. Also it was speculated that WM would be related to both crystallized and fluid intelligence.

FC6-7

A psychometric evaluation of a Swedish version of the quality of life in late-stage dementia (Qualid) scale

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The aim of the present study was to evaluate the validity, reliability and responsiveness of a Swedish translation of the Quality of Life in Late-Stage Dementia (QUALID) Scale. A total of 169 elderly residents at 19 dementia special care units in 8 long-term care facilities in the Gothenburg city region participated in the study. Assessments were made by 107 proxy informants. Results showed satisfactory levels of internal consistency reliability (Cronbach's alpha coefficients 0.74), high inter-rater reliability between informants (0.81), and high test-retest reliability (0.92). As hypothesized, QUALID scores were also associated with those from other quality-of-life (QoL) indices (criterion validity), as well as use of psychoactive drugs, and with tests of cognitive impairment (clinical validity). The responsiveness of the questionnaire was also acceptable. As important clinical decisions may derive from perceived QoL effects, it is vital that the QoL data to be reliable, valid and sensitive to change. Our evaluations of the psychometric properties of the Swedish QUALID indicate that it may satisfactorily fill the pressing need for an instrument to assess QoL in late-stage dementia in Sweden for use in a wide range of settings and applications. Key words: Elderly, Late-stage dementia, Quality of Life, QUALID, Psychometric evaluation. In press: International Psychogeriatrics 2007.

FC6-8

Asymptomatic cerebral emboli predict cognitive and functional decline in Alzheimer's disease and vascular dementia

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Cerebral microemboli are usually asymptomatic but predict the future risk of cerebrovascular accidents in patients at the risk of strokes. We have previously shown that such asymptomatic spontaneous cerebral emboli (SCE) are common (37 to 40%) and predict progression of dementia over six months in both Alzheimer's disease (AD) and vascular dementia (VaD).

We examined the association between SCE and cognitive and functional decline over 24 months in patients with AD and VaD.

144 patients with dementia (84 AD, NINCDS/ADRDA criteria; 60 VaD, NINDS/AIREN criteria), 69 (48%) females, with mead age of 75.2 (7.3) years had completed baseline assessment to detect SCE. SCE were detected using the transcranial Doppler (TCD) monitoring of middle cerebral arteries as per the international consensus. Progression of dementia was assessed by the Alzheimer's Disease Assessment Scale, cognitive subscale (ADAS/Cog) and the Interview for the Deterioration in Daily living activities in Dementia (IDDD).

SCE were detected in 63 (44%) patients with dementia with a similar frequency in AD and VaD ($p < 0.05$). Both initial and 24 month follow up scores on one of the outcome measures were available in 88 (61%) patients. SCE positive patients showed significantly greater cognitive decline as measured by the ADAS/Cog when corrected for baseline ADAS/Cog scores, age, gender, early age of onset, baseline MMSE score, BMI, HDL cholesterol

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and carotid stenosis >50% (mean difference 8.2 points, F = 5.1; df = 72; p = .027). This decline was similar for both AD and VaD patients (F = .105; df = 73; p = .74). Significantly greater functional decline was also evident in SCE positive compared to SCE negative patients as shown by a mean difference in the IDDD score of 19.4 points (F = 10.0; df = 87; p = .002). This decline was similar for both AD and VaD patients (F = .78; df = 87; p = .38).

Asymptomatic cerebral microemboli predict long term cognitive and functional outcomes in patients with dementia. It may be possible to slow progression of both AD and VaD by preventing SCE.

FC6-9

Pilot neuroimaging study evaluating effects of Memantine on brain volume, glucose metabolism and cognition: A randomised, double-blind, placebo controlled design in Alzheimer's disease

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Objective: The neuroprotective abilities of memantine were shown in different preclinical studies. In the present study the aim was to evaluate the effects of memantine on different neuroimaging parameters recognised as markers for neuroprotection. These were in particular the brain volumetry and metabolism in patients with mild to moderate Alzheimer's disease (AD). Methods: In this randomized, double-blind, placebo-controlled study patients diagnosed with AD were treated with memantine or placebo for up to 1 year. Of 37 randomized patients, 32 completed the imaging evaluation after six months and 24 after 12 months. Efficacy assessments were defined as changes in whole brain and hippocampal volume and changes in metabolic activity (glucose metabolism (FDG-PET); N-acetyl-aspartat and myoinositol (MRS)). Clinical outcome measures were ADAS-cog, ADCS-ADL and CDR.

Results: Due to the pilot character of this study and the small sample size the differences remained non-significant. Nevertheless memantine-treated patients showed a numerical improvement relative to placebo on all clinical outcome variables (ADAS-cog, MMSE, CDR, ADCS-ADL). The memantine group showed a similar loss of total brain volume compared to placebo patients, although the memantine treated group had substantially less reduction in hippocampal volume at weeks 26 and 52. NAA and myoinositol concentrations showed high individual and within-group variability, and there were no differences between memantine and placebo treatment groups with respect to changes over time in either group. PET assessment after 52 weeks of treatment showed less decrease of cerebral glucose metabolism in all brain regions in memantine-treated patients than in those receiving placebo.

Conclusions: Clinical effects seen in the study were consistent with previous clinical trial results. Smaller loss of hippocampal volume in patients treated with memantine is in line with the suggested neuroprotective effect of the drug. A reduced decrease in glucose metabolism supports beneficial functional effects.

FC7-1

Dementia program in primary care, five years of experience

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Objective: In the Kalmar community in Sweden a dementia program started in 2000. The focus of the program is to identify, evaluate, treat and follow up patients with dementia. The program also has a caregiver part, including education and support. After five years the program was evaluated in a study with a focus on health economy. The research question was if the introduction of the program changed the use of health services of elderly.

Material and methods: The study was carried out in eight steps, 1) a population analyze, 2) an analysis of the dementia investigations, 3) a questionnaire to all staff in the primary care about knowledge

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and the usefulness of the program, 4) an analysis of all patients' contacts with the primary care, 5) an analysis of the cost for a clinical dementia evaluation at GP and specialist level, 6) an identification of drugs frequently used in elderly, 7) an analysis in elderly visiting the Emergency Department and finally, 8) an analysis of the cost related to dementia for the community.

Results: The demographic structure of Kalmar municipal and Sweden is similar. The identified number of demented patients meets the expected prevalence. Further, the distribution of diagnoses does not differ over the years. The responses rate to the questionnaire among the staff was 90%. There is a consistency in the opinion that the dementia program has been of value for the patient, the caregiver. The cost for a diagnosed patient in the primary care is estimated to 520 £. If a patient was referred to a specialist, this generates an initial cost of 415 £ from the GP and an additional cost at the specialist level of 415 £, a total of 817 £. The use of dementia drugs increased during the introduction of the dementia program, with an unchanged use of drugs for depression. However, there was a lower use of anticholinergic drugs, sedatives and particularly benzodiazepines. In addition there was a significant decrease in the use of neuroleptics. Elderly visiting the Emergency Department has decreased with 15% compared to the control area. The cost of dementia in Kalmar is lower compared to the control area.

Conclusion: With all costs in this study taken together we find a decrease in the total costs for the society. Thus, the focus on dementia in the primary care in Kalmar has been of benefit to both the patients, their caregivers and to the society.

FC7-2

Treatment efficacy of home care services for the moderately to severely impaired demented elderly

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Introduction: Currently, most attention mainly focused on pharmacotherapeutic interventions and the early dementia. However, the related studies on the services for the elderly with moderate to advanced dementia lacked. To obtain the therapeutic efficacy of interventions for the moderate to advanced demented elderly, we organized home visit nursing services based on case-management and multidisciplinary service model.

Methods: Samples was initially screened and should meet possible or probable Alzheimer's disease according to NINCDS-ADRDA and DSM-IV-TR criteria, and should be above 2 on CDR or above 5 on GDS. They were then grouped according to their intention to participate. A length of 9-month biweekly home nursing service, education of caring skills through multidisciplinary instructions, and crisis interventions were applied to the experimental group. The samples and the caregivers in both groups received assessment for the cognitive status, daily life skill performance, non-cognitive symptom severity, extent of aggression, and caregiver burden at baseline and every 3 months. The differences of the above variables were chosen as primary outcome. The pharmacological interventions were not intervened and were blind to raters. All data were computed with statistical software, SPSS for Windows Version 13.0.

Result: 30 demented elderly were included in each group, and 7 samples failed to finish the study due to several causes. No statistical difference was noted between the groups in terms of demographic data of the samples and the caregivers and baseline profiles in every symptom domains. After 9-month intervention, no statistical significance was noted between groups in the changes of cognitive status, daily life skills, non-cognitive and behavioral symptoms. However, the reduction of caregiver burden was statistically significant in experiment group ($p < 0.05$).

Conclusion: The study team proved the applicability and demonstrated the efficacy of home care nursing service in the moderately to severely impaired demented elderly. Unfortunately, home care nursing services failed to halt the decline of cognitive function, daily activity living, behavioral symptoms and aggression. However, home care nursing services indeed significantly reduced caregiver burden in experiment group in the study. Consequently, we believed that home care nursing services are effective in reducing the caregiver burden of the caregivers of moderately to severely impaired dementia patients.

FC7-3

The needs of the older persons with depressive symptomatology in the community. The Santiago de Compostela study

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Assessing the needs of older people with mental disorders has aroused an increasing interest in recent epidemiological research. However, most studies have been carried out among institutionalized populations or among those under treatment and studies performed among community population are scarce. This paper is a part of the Santiago de Compostela Study, a double-phase epidemiological survey, whose global aim was to know the prevalence of depressive disorders and cognitive impairment of older persons who live in this community, as well as their needs and the needs of their informal carers. This paper thoroughly analyzes the needs of persons with depressive symptoms. A sample of 800 persons over 65 years old, representative of the Health Area of Santiago de Compostela (370,000 inhabitants, 20% over 65) was obtained by using a multiphase stratified random sampling. 366 older persons over 65 were interviewed at their homes in the second phase. The e main outcome measures were: 1) the Camberwell Assessment of Needs of the Elderly (CANE), an instrument that was validated in Spain by our group, analyzing 24 areas of need for the subject and two for the carer; 2) the 30-item version of the Geriatric Depression Scale (GDS) by Yesavage. The sample mean age was 76,3 (±6,7) years-old; 32% males, 68% females. The mean of met and unmet needs in the sample was 3,1 and 0,5. For depressed subjects, the values were 5,1 and 0,9, respectively. The most frequent unmet needs were company and money managing. Subjects with depressive symptoms in the community have a higher number of unmet needs than the average population. These results carry implications for psychogeriatric services and social services in the reference population.

FC7-4

Severe domestic squalor among Sydney older persons: A study of prevalence and outcome

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During a 7-year period (2000–2006), 120 cases of people aged 65 years or more who were living in domestic squalor were referred to a Sydney catchment area old age psychiatry service. Eighty-five of these people were rated as living in moderate or severe domestic squalor, of whom only half showed evidence of moderate or severe hoarding. The one-year outcome was determined in most cases referred before 2006. Of 75 living in moderate or severe squalor, half (n = 38) were still residing in their own homes a year later, though mostly with little or no improvement in environmental cleanliness in that time; 25 had moved into aged care facilities, 7 had moved to other accommodation (a majority to live with relatives), and 5 had died. Two thirds of those living in mild squalor were still at home a year later. The annual rate of referrals of cases of moderate or severe squalor among the sector's population of 18000 elderly community residents was about 0.7 per 1000, while the prevalence of referred cases was over 1 per 1000. If milder cases are included, the prevalence was over 2 per 1000.

FC7-5

Developing quality indicators for GP care for vulnerable elders; transfer from United States to the Netherlands

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Background: Measurement of the quality of health care is a first step for quality improvement. To measure quality of health care a set of quality indicators is needed. We describe the adaptation of a set of systematically developed US quality indicators for health care for vulnerable elders in the Netherlands. We also compare the US and the Dutch set to see if quality indicators can be transferred between countries as has been done in two studies in the United Kingdom, with mixed results.

Method: 108 US quality indicators on GP care for vulnerable elders, covering eight conditions (Continuity and coordination of care, Dementia, Depression, Diabetes, End of Life Care, Mobility/falls, Medication use and Undernutrition), were assessed by a panel of 9 clinical experts in the Netherlands. A modified version of the RAND/UCLA appropriateness method was used. The panel members received

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US literature reviews, extended with more recent and Dutch literature, summarizing the evidence for each quality indicator.

Results: 72 indicators (67% of US set) were (nearly) identical in the Dutch and US set. For some conditions this percentage was much lower. For Undernutrition only half of the US indicators were included in the Dutch set. For Depression many indicators were discarded or changed in a significant way, resulting in that only five of the original seventeen indicators (29%) are the same in the Dutch and the US set.

Conclusions: Quality indicators can be transferred between countries, but with caution, because in two of the three studies on transferring indicators between the United States and Europe 33–44% of the indicators was discarded. For some conditions in the current study this percentage is much higher. For Undernutrition there is hardly evidence and differences between the indicator-sets can be attributed to differences in expert opinion between the countries. For Depression it seems that different evidence is considered important in the US and in the Netherlands, of which the Dutch body of knowledge is not known in the US.

FC7-6

The development and implementation of Canadian best practice guidelines for seniors mental health

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Purpose: The development and implementation of new Canadian Guidelines will be outlined.

Method: In January 2005, the Canadian Coalition for Seniors Mental Health (CCSMH) was awarded funding by The Public Health Agency of Canada, Population Health Fund, to lead and facilitate the development of evidence-based recommendations for National Guidelines in four key areas of seniors mental health: 1. The Assessment and Treatment of Depression. 2. The Assessment and Treatment of Delirium. 3. The Assessment and Treatment of Mental Health Issues in Long-Term Care Homes. 4. The Assessment of Suicide Risk and Prevention of Suicide. Between April and September 2005, small multidisciplinary workgroups identified and evaluated existing international guidelines, reviewed primary literature and formulated new draft documents with recommendations, which received stakeholder input at full-day workshops. The guidelines were developed with the following principles in mind: they should be evidence-based, broad in scope, inclusive, practical, clear, concise and readable.

Results: The Guidelines were released in May 2006 and are available for download at www.ccsmh.ca. They have been widely disseminated in print and electronically. Implementation of Guidelines is recognized to be a challenge. Examples of key guideline recommendations and strategies for implementation, including the design of seven pilot projects will be described.

Conclusion: First ever Canadian Guidelines focusing on four important areas of seniors mental health have been developed by multidisciplinary teams. The Guidelines have been widely disseminated and implementation projects are commencing. It is hoped that these Guidelines will improve the standard of care in Canadian Health Care settings.

FC7-7

Suicidality in the elderly-findings from a community survey in South-Western Nigeria

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Background: Suicide in late life is commoner than in all other adult age groups. In almost all industrialized countries, men aged 75 years and older have the highest suicide rate among all age groups Elderly suicide is characterized by less warning, higher lethality, less ambivalence and impulsivity, more determination and intent to die, greater prevalence of depression and physical illness. Since suicide itself cannot be treated, it is important that attention is paid to prevention. Therefore it is necessary to identify and study factors related to suicide. One of such factors is suicidality. There is a dearth of epidemiological studies looking at suicidality in West

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Africa. Even less data is available about suicide in the elderly as a particular group. Having data will contribute to developing better strategy for prevention. This presentation aims to identify the epidemiological pattern of suicidal ideation, planning and attempt as well as the risk factors for suicidality, using a large community-based sample.

Method: The data is from The Ibadan Study of Aging, a community based survey of the health status as well as the functioning and disability of elderly persons (aged 65 years and over) residing in the Yoruba-speaking areas of Nigeria. Respondents were selected using a multi-stage stratified area probability sampling of households. 2152 respondents were interviewed.

Results: The results showed that a quarter of those who had ever thought of suicide had also ever planned it and almost all those who had ever planned suicide had attempted it. Our analysis suggests that the only factor significantly associated with ideation, and plan was having a functional disability. Functional disability was also associated with a higher but non-significant risk of making an attempt. Having chronic pain was strongly positively associated with making an impulsive attempt (that is, attempt without a plan) but negatively associated with making an attempt among ideators with plan. Compared with persons in the highest economic group, those in the lowest group were less likely to make a plan.

Conclusion: Suicidal attempt is associated with suicidal ideation in a significant proportion of elderly persons. The presence of a functional disability and chronic pain are associated with increased suicidality. These have implications for the management of health problems in the elderly.

FC7-8

Effectiveness of day care service for the demented people

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Background: Day care for demented people is available in many developed countries. But its effectiveness in maintaining activities of daily living, quality of life and in preventing nursing home placement has not been adequately evaluated. Objective and hypotheses: Day care for older people with early and moderate dementia retards the decline in activities of daily living and quality of life, and can prevent nursing home placement.

Method: Thirty two elderly diagnosed with mild to moderate degree of dementia using the day care service of a dementia care centre were follow up prospectively on admission and at six month. Control subjects were 22 age matched non users with dementia followed up in the memory clinic of the same centre. The primary outcomes were activities of daily living (Modified Barthel Index and Lawton Instrumental Activities of Daily Living) and subjective quality of life (Personal Wellness Inventory). The secondary measures included behavioral symptoms (Cohen Mansfield Agitation Inventory), Mini mental state examination (MMSE), and rate of institutionalization.

Results: At sixth month follow up, the control subjects showed a significant decline in Lawton Instrumental Activities of Daily Living, while the day care users remained stable ($p < 0.01$). Modified Barthel Index did not change significantly in either group. Both day care users and control subjects showed an enhancement of quality of life ($p < 0.01$). Day care users had a significantly lower rate of institutionalization as compared to the control group (0/34 versus 4/22, respectively, $\chi^2 = 6.657$; $p < 0.05$). Repeated-measures analysis of variance (ANOVA) on MMSE and behavioral symptoms revealed that both day care users and control subjects did not change significantly across time ($p > 0.6$).

Conclusion: Our preliminary findings suggested that day care service may help elderly with dementia to retain activities of daily living functions, hence reducing the need for institutionalization. The longer term effects of day care service in sustaining the level of functioning and quality of life of the demented people require further follow-up.

FC7-9

Intra-group variations in depressive symptoms in aging South Asian immigrants in Canada

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This study examined the intra-group variations in depressive symptoms in aging South Asian in Canada. A structured questionnaire was used in a telephone survey with a random sample of 220 aging

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South Asian immigrants in Calgary. A modified version of the 15-item Geriatric Depression Scale was used to assess depressive symptoms. Differences in depressive symptoms by gender (male vs. female), age (younger than 65 years old vs. 65 years old and older), religion (Hindus vs. Muslims vs. Sikh), and length of residency in Canada (fewer than 10 years vs. 10 years and more) were compared. It was found that often get bored, worry about the future and have more memory problems were the most commonly reported depressive symptoms. Gender, religion, and the length of residency were found to influence depressive symptoms. Being female, Hindu or Muslim, and length of residency under 10 years were more susceptible to depressive symptoms. This study indicates that it is important to consider intragroup diversity and variations in depressive symptoms manifested by aging ethno-cultural minority immigrant groups. Based on the background of the clients, mental health practitioners should focus on addressing and paying attention to the different depressive symptoms reported by the aging ethnocultural minority immigrants.

FC8-1

Death anxiety: Do children of elderly inpatients admitted to an acute geriatric ward able to accurately assess the death anxiety state of their own parents?

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Introduction: The subject of Death Anxiety arises daily when working with the elderly. It is likely that its presence, especially of family members, may prevent the medical staff passing on relevant information relating to the medical status of their elderly, thus impeding the development of effective treatment programs. This becomes relevant in the light of Law of Rights for patient passed in many Western Countries. The working hypotheses were that the elderly do not suffer from Death Anxiety, and that their children are unable to assess the absence of Death Anxiety in their own parents.

Method: The subjects were taken from parent-child pairs of elderly admitted to a geriatric inpatient ward in Haifa, Israel. Elderly were included if they were not cognitively impaired and were not acutely ill at the time of the interview. The parent completed Death Anxiety Scale of Templer (DAS) (with a maximum score of 15) and then the child answered for himself and then completed the DAS as he thought his parent would answer. Various demographic, health and religious characteristics were collected as well.

Results: 44 pairs were examined with about half of each females. The mean age for the elderly was 81y and 52.5y for the children, with a mean of 9.2y and 14.8y education respectively. The mean scores for DAS of the elderly compared to their children was significantly higher (4.0 versus 6.9 respectively, $P < 0.01$) and the difference between the elderly and assessment of the child was even more significant (4.0 versus 8.1 respectively, $P < 0.001$). On subanalysis, it was shown that the elderly are more worried of the dying process than actual death, however their children are worried both on the process and actual death.

Discussion: As hypothesized, the elderly were suffering less from Death Anxiety but their children do have Death Anxiety, which they extrapolate onto their parents. This causes conflicts with the medical staff as the children often adamantly refuse to allow information to be passed onto their parents, even in the light of the Law of Rights for Patient. This has to be addressed when discussing with family members the health of their parent. The family needs clarification that their parents are not afraid of death but rather the dying process and that in order to help the elderly, a physician has to be able to honestly communicate with his patients. Future studies may relate to the difficulty in relaying information to sufferers of diseases such as dementia.

FC8-2

Respite demands for caregicer's demented patients

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Vulnerability and a poor quality of life add their effects to precipitate a caregiver frailty. Caregivers health is a main factor to unbalance their personal condition, and they are sometime far from a possibility or even a will to get a help for themselves from the health system.

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Methods: Four different studies from 2000 to 2005 were run out in France including 2269 demented patients and their caregivers.
Results: Caregivers seek respite and 25% of them demand day care facilities and 12.5% temporary hospitalisation in adapted wards specialized for demented patients. These specific demands are the first one, and are more frequent than the demands of medical care or nursing. We draw out a profile of a frail caregiver requiring a priority help. Four subpopulations of caregivers strongly necessitate respite: very old caregivers, caregivers of young demented patients, caregiver without free time even to care for themselves, young caregivers with heavy social or familial commitments.
Discussion: Future horizons can be find out from this studies, in order to avoid or to limit the risk of caregiver's frailty: necessity to provide for more information on Alzheimer's disease, to advice on patients' malnutrition, and mainly to provide for information on different forms of assistance available to persons in charge with an Alzheimer's patient, such as in-home services, respite care facilities, emergency respite in nursing homes, adult day services, all this in order to allow a minimum of social life for the caregiver.

FC8-3

Pessimism and adjustment in the institutionalised elderly

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The size of the elderly population in India increased from 20 million in 1951 to about 84 million in 2001, and is projected to touch 107 million in 2010 (United Nations, 1995). Though the majority of this population would reside in rural areas, institutionalization of the urban elderly is fast becoming commonplace. For want of familial support, several of our senior citizens land up in various institutions for the aged where they have either been abandoned by their children or move in on their own for various reasons. Traditionally this was a sector, which did not warrant much concern owing to the joint family system, which was in vogue and the inherent understanding that the elderly members of the family were the responsibility of their children. This study was planned against this background. It was carried out with 100 inmates of five major residential institutions for the elderly in Tiruchirapalli city using a random sample. It attempts to generate an insight into feelings of pessimism experienced by these respondents and their psychosocial adjustment towards various aspects of their environment. The instruments administered were the Hopelessness Scale (Beck and Wiseman, 1974) which assesses their feelings of pessimism towards the future and the Bells Adjustment Inventory which assesses their adjustment towards home, health, social and emotional domains Data analysis reveals that though depression levels in the majority was low, they also manifest high levels of pessimism. They however showed good overall adjustment scores but were rated as average with regard to the health, home and emotional dimensions. The majority also had a low level of life satisfaction. A highly significant negative relationship between the life-satisfaction of the respondents and their overall depression score was obtained. No gender differences were seen in the manifestation of hopelessness. The findings have definite implications for intervention with the institutionalized elderly. The absence of a counsellor/ social worker has been brought out by the wide array of psychosocial deficits manifest in the elderly in these institutions. Supportive psychotherapy, healthy leisure time management and participation in group activities to strengthen bonding among inmates are some of the ingredients of intervention with the institutionalized elderly.

FC8-4

The effects of group living homes for elderly with dementia

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Introduction: This study examined the effects of group living homes for elderly with dementia, a fast growing form of nursing home care in the Netherlands. The aim of this study was threefold, namely to asses the effects of group living homes on:

1. residents' quality of life, ADL, social engagement, behavioural problems, psychopharmaceutical medication and physical restraints;

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2. informal caregivers' health, perceived pressure from informal care and satisfaction with care;

3. professional caregivers' job satisfaction and burnout symptoms as well as the underlying psychosocial work characteristics demands, control and social support.

Methods: For the first and second study 67 new residents and their informal caregivers in group living homes and 99 residents and their informal caregivers in modern, large-scale nursing homes returned a questionnaire upon admittance and six months later. For the third study, 183 professional caregivers in group living homes and 197 professional caregivers in traditional nursing homes returned a questionnaire.

Results: 1. Residents of group living homes had a somewhat better quality of life, needed less help with ADL and were more socially engaged. They also had less physical restraints. There were no differences in behavioural problems or use of psychopharmaceutical medication.

2. There were no differences in health and perceived pressure from informal care of informal caregivers in group living homes and traditional nursing homes: both groups improved immensely after admittance of their relative. However, informal caregivers of group living homes were more satisfied with care in this setting.

3. Professional caregivers of group living homes reported more job satisfaction and less burnout symptoms, as well as lower demands, more control and more social support. Mediation analyses showed that these levels of demands, control, and social support indeed explained the levels of job satisfaction and burnout symptoms.

Conclusion: This study shows that group living homes for elderly with dementia certainly have positive effects on those involved, especially on residents and professional caregivers. Contrary to expectations, modern large-scale nursing homes achieved good results as well. Furthermore, newly admitted residents in group living homes proved to be in a generally better (cognitive) condition, thereby raising the question whether group living homes are suited for all elderly with dementia.

FC8-5

Is there an association between environmental design of facilities and agitation in elderly?

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This study aims to test a conceptual framework that describes a relationship between agitation in dementia sufferers and the socio-physical environment of the long-term care setting. The proposed framework utilizes fragments of research in psychology, sociology, and environmental gerontology; and to a lesser extent biology. By unifying theoretical approaches prevalent in each one of the above domains, this integrative model will fill a gap in literature that has long concerned researchers in environmental gerontology.

The conceptual validity and integrative power of the framework, as well as potential impact of environmental design on elderly with dementia was tested through a secondary analysis of a study of eleven long-term care facilities in Southeast Wisconsin. The model aids in defining environmental variables within the long-term care setting most salient with respect to agitation, while clarifying the hypothesized relationship.

The study utilized a mixed-method approach that combined a quantitative descriptive correlational design with a qualitative descriptive case study. In addition to personal characteristics of the participants, direct observation of subjects and environments was recorded, quantified and analyzed.

Findings reveal a correlation between certain characteristics of the study settings and agitation.

A conceptual framework that describes the relationship between agitation in dementia sufferers and the socio-physical environment of the long-term care setting may have implications for future theoretical developments, research, and design applications. Of particular interest would be the specific manipulation of the environment as a non-pharmacological tool to ameliorate agitation.

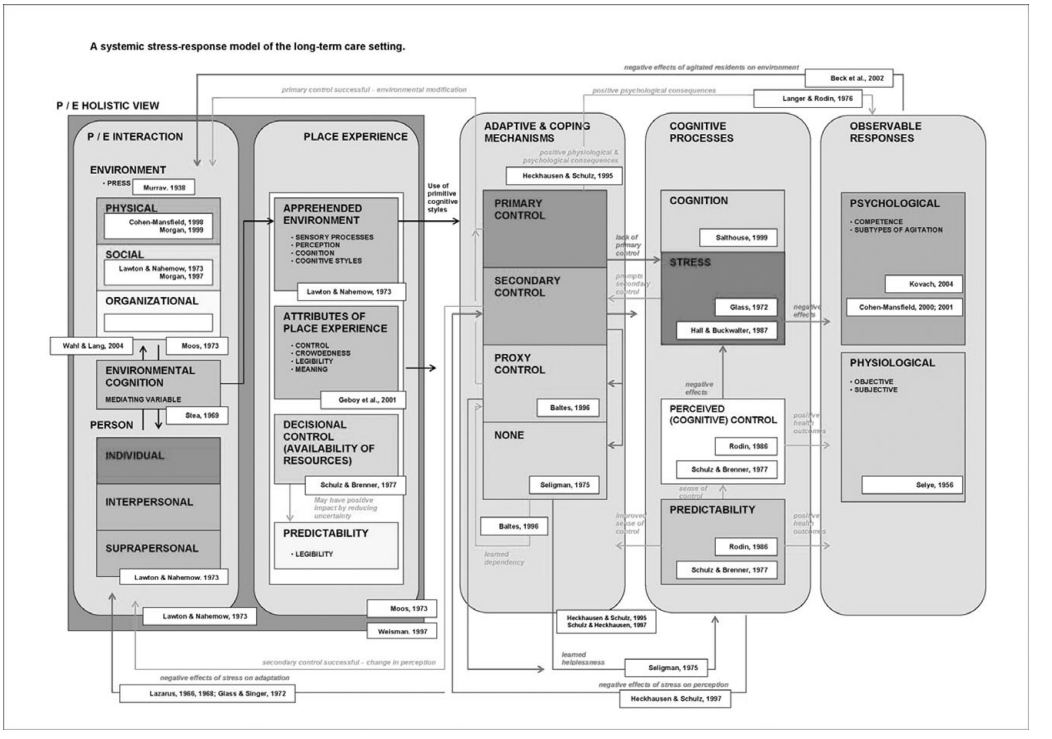
FC8-6

Psychiatrical consulative-liaison service for geriatric patients with comorbid mental disorders in general hospital

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FC8-5

Ten years ago the Psychotherapeutic Departments were organized in some Moscow General Hospitals. During some years we revealed that in General Hospital 13124 somatic patients in age from 18 to 90 years old suffered from comorbid mental disorders (CMD).There was the following age-distribution of patients: the amount of consulted elderly patents (over 60 years) was the largest (45,4%). The other age groups were: 18–39 years 21,8% and 40–59 years 32,8%. The elderly patients (over 60 years) were suffered from cerebral atherosclerosis, initial stages of cerebral dementia and residual symptoms of stroke. The mental disorders in elderly patients were different: 1/3 suffered from psychotic and demential disorders; 2/3 suffered from neurosis-like, somatoform disorders. The distribution of different CMD in elderly patients of General Hospital was the following: only some percents of patients had acute transient non-organic psychosis and alcohol delirium; in contrast, the patients with organic psychosis were 26%. There were also only few % of patients suffering from mental deficiency, epilepsy, disorders of personality, narcotizm, alcoholism and residual schizophrenia. There were many patients suffering from affective disorders (9%), neurotic connected with stress and somatophorm disorders (17%); organic non-psychotic disorders (32%). For treatment of CMD in elderly patients small doses of soft neuroleptics, atypical antidepressants, anxiolytics and nootrops were successfully used. In psychotic cases the psychotherapy was limited. However in the cases of non-psychotic disorders we used different kinds of psychotherapy. In all cases of psychotic disorders in somatic inpatients nobody was transferred in psychiatric hospital. Thus, our experience has shown that it is necessary to organize the psychotherapeutic/psychiatric Department in every large general hospital for well-timed revealing and successful treatment of CMD in elderly somatic patients. The using of light atypical neuroleptics, modern antidepressants and anxiolytics as well as different methods of psychotherapy and psychological correction are very useful for elderly patients. Treatment of elderly patients with CMD in general hospital is more convenient in comparison with special mental hospital due to following reasons: the treatment of the main somatic diseases together with CMD is

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carried out in comfortable conditions without any stigmatization and discrimination.

FC8-7

Promoting seniors' mental health in long term care homes: Best practice guidelines from Canada

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An estimated 80% of residents in long term care (LTC) homes have mental health issues. Difficulties in the areas of mood, cognition and behaviour often co-exist with medical/neurological illness and physical disabilities. Moreover, there are pressing concerns about the quantity and quality of mental health services available to individuals who reside in these facilities. In response to these concerns, the new Canadian National Guidelines for Seniors Mental Health include examination of the mental health issues of older adults who reside in LTC homes. The specific focus is on mood and behaviour symptoms. Guideline recommendations were formulated within a framework of overarching principles and assumptions that should guide the care received by all residents of LTC homes. Recommendations address general care (non-pharmacological strategies that have been found to prevent and/or reduce behavioural symptoms in residents in the context of activities of daily living such as meeting physiological needs and maintaining hygiene), as well as the assessment and treatment of depressive and behavioural symptoms presented by individual residents. Assessment recommendations address screening, detailed investigation and ongoing evaluation. Treatment recommendations are provided separately for depressive and behavioural symptoms to reflect the evidence-base. We emphasize the importance of considering the potential synergistic benefit of integrating psychological, social and pharmacological interventions to develop an appropriate and effective treatment plan. The LTC Guideline, and the three companion Guidelines focused on depression, delirium and suicide prevention in older adults, were completed under the leadership of the Canadian Coalition for Seniors Mental Health (CCSMH) and dissemination to stakeholders in long-term care facilities, hospitals, government, community services, and educational institutions across Canada has been ongoing since June 2006. Currently, the CCSMH is engaged in a multi-pronged knowledge exchange initiative to disseminate and encourage implementation of the National Guidelines.

FC8-8

The Environmental Cleanliness and Clutter Scale (ECCS)

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A recent review has shown a need for systematic studies of why some people live in severe domestic squalor, and how best to intervene. To date there are no published, well-validated, reliable scales to allow comparison, between individual cases and over time, of the degree and manifestations of squalor in different studies. Our objective was to develop a brief measure of cleanliness and clutter that could be utilised by workers from a variety of services, including those working in health, housing and community agencies. A number of items (suggested by experienced representatives of relevant services and in relevant literature) were included in an initial trial of a cleanliness scale, but this number was reduced to 10 by excluding some that rated aspects that were similar to (and usually rated identically to) other items. The final scale required ratings of accessibility, accumulation of garbage, accumulation of items lacking obvious value, odour, vermin, cleanliness of living room and hallway floors and surfaces, bathroom and toilet, kitchen, refrigerator and food, and sleeping area. Items were rated zero to 3 according to operationally defined anchor points. The psychometric properties of this instrument (the Environmental Cleanliness and Clutter Scale; ECCS) were determined by the authors, who co-rated 24 dwellings of clients referred to their catchment area old

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age psychiatry service. Their mean age was 74 years (range 67–85). Most lived alone, but three dwellings were occupied by couples. Some were seen first by other community health staff, and all the homes referred to the authors for co-rating were reported by the referrers as unclean, but to a varying degree. The authors independently recorded whether ratings of severe, moderate, mild or no squalor seemed to them to be appropriate. They made ratings on items of the ECCS. An average Kappa coefficient of 0.50 pointed to good inter-rater reliability. The average ECCS scores were 11.29 (s.d. 6.06) and 11.09 (s.d. 6.38), and correlated well ($r = 0.91$, $p = .01$, 2-tailed). Cronbach alpha scores for the 10 items were 0.73 (JS) and 0.86 (GH), suggesting high internal consistency. Ratings were also made on the unpublished Living Conditions Rating Scale (Samios, 1996) and a comparison with ECCS results showed a good correlation, though reliability and internal consistency of the ECCS were found to be superior.

FC8-9

Psychiatric morbidities and family support among the elderly population of Bangladesh

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Background: Most of the people are not concerned about the mental health in developing country like Bangladesh. Elderly population is neglected and most of their age related problems are taken as normal consequence. Many changes in the sector of personal, familial, social, political, economical ultimately influence the physical and psychological health of elderly people. Most of these are unrecognized due to lack of awareness.

Objectives: The study was done to assess the family support and psychiatric morbidities among Bangladeshi elderly group.

Methodology: The study was a cross sectional comparative study conducted in the selected area of Dhaka city corporation, Bangladesh, during the period of January 2002 to December 2002. Total 300 respondents were included in this study. Age 65 & more were taken as cases ($n = 100$) where as less then 65 years were control ($n1 = 200$).

Results: In the study, 30% of cases were suffering from psychiatric disorders. The findings were statistically significant ($p < 0.001$). Depressive disorder (18%) followed by dementia (7%) were found high in elderly population where as depressive disorder and generalized anxiety disorder found same number (2.5%) in young respondents. Sixty-six percent cases had appropriate financial support and it was 75% in young group. The result was not statistically significant. Regarding subjective feeling of family support 67% of cases and 90% of control had enjoy sufficient autonomy which was statistically significant ($p < 0.001$). Feeling of loneliness was 57% in cases and it was 24.5% in young group which was also significant ($p < 0.001$). Among the elderly, psychiatric morbidities were found more, who enjoy less family support. Among them – 'appropriate financial support' were found in 53.3% and 71.4%, 'Spent sufficient time with family' were found in 66.7% and 87.1%, 'Feeling loneliness' were found in 70% and 51.4%, 'feeling of being neglected' were found in 30% and 14.3%, 'enjoy sufficient autonomy' were found in 63.3% and 68.6% of cases respectively with psychiatric disorder and without psychiatric disorder.

Conclusion: Prevalence of Psychiatric morbidity is much higher in elderly then expected ratio with younger group. People even do not know these problems could be corrected by some interventions. Proper concern about the mental health of elderly people is necessary. Early detection and treatment along with enhancement of family support would be helpful for mental and physical wellbeing of elderly.

FC9-1

Rehabilitation of persons with mild cognitive impairment

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Background: New application and evaluation of virtual Reality (VR) has been increasing for persons with cognitive impairments. The aim of this project was to evaluate a non-immersive type, virtual reality-based (VR) memory training programme in enhancing community living skills for persons with Mild Cognitive Impairment (MCI).

Method: A pre- and post-test quasi-experimental design was adopted. 34 elderly subjects (were successfully recruited from local geriatric day centers and randomly assigned to either a VR- or non-VR group. They were medically stable and at the stage of

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MCI as indicated by the score of 0.5 by the Clinical Dementia Rating Scale and free from physical, neurological and visual impairment. Outcome measures included the Multifactorial Memory Questionnaire, Fuld Object Memory Test, Meta-Memory Questionnaire, Hong Kong Lawton Instrumental Activities of Daily Living, session-based computer scoring to record the level of accomplishment, accuracy and time required. Focus groups were also organized to gather feedback from subjects for their use of strategies in community living activities. A non-immersive, VR-based memory training programme was developed based on 2 selected scenarios: home and convenience shop. Similar training structure and content in the form of a training manual was constructed for non-VR group and delivered by therapists.

Result: Age- and gender-matched VR and Non-VR group, with mean age of 80.29 (SD = 5.14), showed within group significant improvements in the Fuld Object Memory Test and Multifactorial Memory Test by t-test. VR group showed across-group difference in Fuld Object Memory Examination (total encoding; $F = 4.54$; $p = 0.049$).

Conclusion: Initial findings seem to suggest positive results from VR-based memory training and for application to community living skills. This innovative and tailor-made intervention program might meet different cognitive needs of the elderly living in the community (supported by funding from Research Grant Council, project #523205).

FC9-2

Medication as risk factor for falls, critical systematic review

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Background: Falls and fall related fractures are major reason for poor prognosis and excess mortality. Medication is one essential reason for falling. Our aim was systemically evaluate original articles that study medication use as a risk factor for falls or fall-related fractures in people aged 60 years or over.

Methods: We searched English articles in Medline (1996–2004) indexed under accidental falls or falls and pharmaceutical preparations or specific classes of drugs. We evaluated systematically original articles on medication use as a risk factor for falls or fall-related fractures in people aged 60 years or over. We excluded studies not controlled with nonusers of target medicines or non-fallers or with no clear definition of target medicines.

Results: Twenty-nine studies met the inclusion criteria and only one of them was a randomized control trial. In 17 of the 29 studies the subjects were community dwellers while the rest of the studies concerned persons in residential care. The number of subjects ranged from 70 to 132873 persons. The outcome measure was a fall in 22 studies and a fracture in 7 studies. The main group of drugs associated with an increased risk of falling was psychotropics: antidepressants, antipsychotics, hypnotics, sedatives or anxiolytics and sleeping pills. Antiepileptics and drugs that lower blood pressure were also associated with falls.

Conclusion: Central nervous system drugs, especially psychotropics, and drugs that lower blood pressure seem to be associated with an increased risk of falls. Drugs used by elderly persons are not systematically studied as a risk factor for falls.

FC9-3

Predisposing and precipitating factors for falls in people with dementia

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Background: Sustaining falls is a major cause for morbidity and mortality in the older population and people with dementia run a high risk of falling. About one third of people suffering hip-fractures in Sweden have a dementia disorder. Most fall prevention studies in people with dementia have failed, thus more knowledge about predisposing and precipitating fall risk factors are urgently needed.

Objective: To identify risk factors for falling in people with dementia.

Methods: The study was performed during 6 months in northern Sweden with a total of 160 participants residing in 20 group dwellings for people with dementia. After baseline assessment all falls were registered prospectively on a special fall report form by the staff who had detected the fall.

Results: Seventy out of 160 participants suffered 191 falls corresponding to a fall incidence of 2,6 falls per person year. Being able to rise from bed, wandering behavior, not being able to perform independent hygiene and walking with assistive devices were found

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in regression analysis to be the risk factors most strongly associated with falling. Symptoms preceding falls were delirium and anxiety.

Conclusions: People suffering dementia with a high risk of falling can be easily identified. Successful prevention of falls in people with dementia has to include prevention and treatment of the causes of delirium, anxiety and wandering behavior. The optimal use of walking devices to prevent falls in people with dementia remains unknown. These findings need to be implemented and evaluated in future intervention programs.

FC9-4

Physical and psychological variables vie for the upper hand in frail older adults

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Until recently, anxiety disorders and symptoms of anxiety in older people had received less attention than depressive disorders and symptoms, both from clinicians and researchers. While there is clear evidence for the effect of depressive disorder on a range of adverse physical and psychosocial outcomes, there is less evidence to date on the consequences of anxiety for the health and well-being of older adults. The objectives of the study were to ascertain the prevalence of anxiety symptoms and disorder in a sample of physically unwell older adults and to test the extent to which anxiety predicted selected functional and psychosocial outcomes. The outcomes selected were the ability to carry out activities of daily living, quality of life, and place of residence at discharge. This presentation will report the findings from a prospective study of consecutive admissions to geriatric wards in a sub-acute hospital in Melbourne, Australia. Patients were interviewed within one week of admission to hospital using the GMS-AGECAT and the Hospital Anxiety and Depression Scale, and again 2 months later. Physical health, ADL ability, and quality of life were also assessed at both times. Measures of neuroticism, coping style and self-efficacy were also used at baseline in order to examine the psychological processes that might contribute to the observed outcomes.100 patients aged 62 to 99 years were interviewed within one week of admission to hospital. As expected, high levels of anxiety and depression were found, with around 38% of the sample having clinically significant symptoms of anxiety. Two months later, there was a significant reduction in symptoms. Anxiety and depression both tended to remit, and did not predict poorer outcome in the sample. The hypothesised impact of coping and self-efficacy was not confirmed. However, aspects of physical health at the time of admission did predict functional and psychosocial outcome. Although rates of anxiety are high immediately around the time of admission to hospital, they appear to decline over time. In this sample of predominantly old-old and physically frail older adults, physical health appeared to have a greater impact on psychosocial outcomes of hospitalisation than psychological variables. Physical health promotion should take on a greater importance if physical health is the strongest predictor of functioning in the very old.

FC9-5

The first exploration of the experiences and needs of older adults with dementia and serious visual impairments

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Serious visual impairment is one of the most common conditions in later life with a prevalence of around 12% in the over 75s. Evidence suggests higher rates of sight loss among older people with dementia, yet there is a striking absence of formal research within this population. Like dementia, sight loss is an extraordinary traumatic disability, which has a profound impact on the identity of the individual. The co-existence of cognitive and visual impairments compounds the impact of the respective conditions and complicates detection and management. This is the first study to explore the experiences and needs of older people with dementia and serious visual impairments. The aims of this large-scale qualitative research study were: to investigate the perceived impact of serious visual impairments and dementia on the daily living and quality of life of older people with both conditions and family carers; to explore needs for support, coping strategies and pathways to care; to develop recommendations for improving access to appropriate support. Fifty-two

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in-depth interviews were conducted; 17 with older adults with both conditions, 17 with family carers and 18 with care professionals who work with them. Joint memory and sight loss caused profound disorientation. Individuals failed to recall their surroundings and could not locate themselves using visual cues. Cognitive impairments prevented learning compensatory strategies for sight loss and sight loss prohibited the use of visual prompts. Sight loss increased their vulnerability, while cognitive impairments affected their ability to accurately assess this risk. Caregivers worried about safety and imposed constraints on activities, which sometimes led to conflict, as older adults struggled to comprehend their losses. The two conditions restricted interests and hobbies and many became dependent on caregivers for stimulation. One-to-one interaction was considered essential as sight/memory loss made it difficult to participate in groups, and isolation was a prevailing theme. Visual hallucinations were prevalent and compounded disorientation. Caregivers discussed their management. Sight loss services felt ill equipped to manage dementia related needs, and visual needs assumed a low priority in dementia services. Recommendations can be made for how services can better meet the needs of this population.

FC9-6

Who does well after a stroke? The Sydney stroke study

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Research addressing positive outcomes after stroke has been limited. The objective of this study was to determine the prevalence and predictors of people with a favourable outcome 15 months after stroke. Our hypotheses were that people would be more likely to have a poorer than favourable outcome after stroke and that people with cerebrovascular risk factors would be more likely to be represented in the poorer group. The sample comprised 125 patients with complete Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL) and Mini-Mental State Examination (MMSE) scale scores at baseline (approximately four months after ischaemic stroke) and again at follow-up (one year later). 31 patients were defined as having a favourable outcome (an MMSE score greater than or equal to 28/30 and combined ADL/IADL score equal to 14/14 at follow-up) and 94 as having a poorer outcome. Predictors of a favourable outcome following stroke included being younger, having higher premorbid IQ, no atrial fibrillation, no dementia, less apathy and fewer intercurrent cerebrovascular events. We conclude that people can have good outcomes in the year after stroke except if they experience further cerebrovascular events and/or have risk factors for cerebrovascular disease. Brain reserve appears to be protective.

FC9-7

Activities of daily living in frontotemporal dementia and Alzheimer's disease

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Background: Despite growing interest in the dementias of the frontotemporal type, little is known about their impact on ADLs.

Objectives: To describe the impact of behavioural variant frontotemporal dementia (bv-FTD), semantic dementia (SD), progressive non-fluent aphasia (PNFA) and Alzheimer's disease (AD) on activities of daily living (ADLs), and the relationship between them and cognitive variables.

Methods: In this cross-sectional study, caregivers were interviewed with the Disability Assessment for Dementia (DAD) to assess patients performance in everyday activities. The DAD comprises basic activities of daily living (BADLs) and instrumental activities of daily living (IADLs). Patients were tested on cognitive measures (Addenbrookes Cognitive Examination) and the Clinical Dementia Rating Scale. Data were analysed using non-parametric tests, given their distribution.

Results: 59 patients and respective caregivers participated, from the following sub-groups: FTD (n = 15), SD (n = 15), PNFA (n = 10) and AD (n = 19). Groups were well matched for age, education and disease duration. Average age and disease duration across groups were 65 and 5.2 years, respectively. On cognitive measures (ACE-R), the PNFA and SD were the most impaired (49/100 for

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both), while the bv-FTD showed least impairment (74/100); AD was intermediate (69/100). By contrast, on the DAD the reverse pattern was found, with bv-FTD showing the greatest impairment in both BADLs and IADLs (59/100), while the PNFA and SD were the least impaired groups (82/100); AD was again intermediate (73/100). We also analysed whether the deficits affected more initiation, planning or execution of ADLs. No significant correlations between the DAD and cognitive measures, CDR or disease duration were found.

Conclusions: We have shown the devastating effect of FTD on ADLs, which is of considerable importance to caregivers and not captured by bedside cognitive tests. More attention should be given to the underlying causes of these practical impairments.

FC9-8

Identification of functional deficits for rehabilitation in dementia

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Background: Early and accurate diagnosis and assessment of dementia are beneficial for treatment of dementia. Changes in functional ability of cognitive roots, not or not only of motor causes, are essential signs of consideration in the diagnosis of dementia. Assessment of the functional deficits in the activities of daily livings (ADL) is, therefore, from a functional perspective, fundamental to the clinical diagnosis of dementia. The Assessment of Motor and Process Skills (AMPS) is standardized instrument used by occupational therapist to determine the quality of ADL performance in terms of the motor and process skills. The objective of this study is to evaluate and describe the utility of the AMPS in identifying early dementia.

Methods: A cross-sectional, multi-center validation using group comparison study was conducted. The AMPS was administered by occupational therapists to 88 Chinese elders of age over 60 years, living in hostels, care and attention homes or day activity centres. Their severity of dementia was assessed independently by psychiatrists through the Clinical Dementia Rating (CDR). The raters for the AMPS and CDR were independent and blinded to the scorings of the study.

Results: 83(66 women, 17 men) out of 88 subjects were recruited for data analysis as 5 of them were rated as severe dementia according to the CDR. The mean age was 83 (SD,6.9) years. The mean AMPS Process and Motor skills scores of questionable dementia (CDR 0.5) were 1.51 and 2.53 ($n = 20$), mild dementia (CDR 1) were 0.94 and 1.81 ($n = 33$) and moderate dementia (CDR 2) were 0.53 and 1.45 ($n = 30$) respectively. By using independent sample t test, there were significant differences in the AMPS Process skills score ($p < 0.001$) and Motor skills score ($p < 0.05$) between questionable and mild dementia. There was also significant difference in the AMPS Process skills score ($p < 0.001$) between mild and moderate dementia. However, no significant difference was found in the AMPS Motor skills score ($p = 0.11$) between mild and moderate dementia.

Conclusion: This group comparison study shows that the AMPS is a useful assessment instrument, which is free from educational and cultural influences, in identifying cognitive-functional deficits in questionable, mild and moderate dementia. Assessment of motor and process skills may be an additional area of consideration in identifying older person at-risk of function and cognitive decline.

FC9-9

Screening for neuropsychiatric symptoms in memory clinic outpatients. Construct validity of the neuropsychiatric inventory-questionnaire (NPI-Q)

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Introduction: Neuropsychiatric symptoms are highly prevalent in dementia. The Neuropsychiatric Inventory (NPI) is a well-known measure of neuropsychiatric symptoms based on an interview with a caregiver. The questionnaire version (NPI-Q) may serve as an efficient screen for neuropsychiatric symptoms. The aim of this study was to evaluate construct validity of the NPI-Q in memory clinic outpatients.

Methods: Cross-sectional study of memory clinic outpatients ($n = 196$) referred for neuropsychological evaluation in Medical Center Alkmaar, The

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Netherlands. A close relative scored the NPI-Q. Data on co-morbid disorders, cognitive function (Mini Mental State Exam) and clinical diagnosis were retrieved from medical charts. Principal component analysis with orthogonal rotation of factors was used to examine behavioral dimension underlying NPI-Q observations.

Results: Participating patients were 76.6 years old (SD 6.3; range 59–91), 43.9% were female. The average MMSE score was 24.2 (SD 3.9; range 11–30) and 63.2% of patients had an MMSE score of 24 or higher. Vascular risk factors were present in 52% of all patients, extrapiramidal signs in 11.2%, and other co-morbid disorders in 39.3%. Subjective memory complaints was diagnosed in 4.1% of patients, Mild Cognitive Impairment (MCI) in 18.4%, Dementia (AD/VaD/PDD/LBD/FTD/Mixed/N.o.s.) in 62.3%, Depression in 2.6%, Other diagnosis in 11.2%, and diagnosis was deferred in 1.5% of patients. The average NPI-Q score was 6.7 (SD 5.7, range 0–28) and a total of 137/196 patients (69.9%) had at least one or more moderate to severe neuropsychiatric symptom. A four factor model explained 57.7% of common variance. The first factor was named Agitation, the second Depression, the third Psychosis, and Euphoria was the single symptom loading on the fourth factor. Depression was modestly associated with cognitive impairment (Spearman rho = −.18, p = .01). Results corroborate earlier factor analytic findings on the NPI.

Conclusions: This is the first study evaluating construct validity of the NPI-Q in memory clinic outpatients. The behavioral constructs underlying NPI-Q observations are Agitation, Depression, Psychosis, and Euphoria. The NPI-Q is an efficient and valid screen for neuropsychiatric symptoms.

FC10-1

Dementia in India: Age-stratified prevalence in South India

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The objective is to determine the age-stratified prevalence of dementia in a multicultural community in South India. The design consisted of a 2-phase screening and evaluation survey. The authors carried out a community survey of a cohort of 2464 individuals aged ≥55 years. The cohort was multicultural and heterogeneous. Men constituted 41% of the total, Hindus 69.8%, Christians 24.4%, and Muslims 5.8%, nearly reflecting the population distribution of the state of Kerala where the study was done. Those below 75 years of age constituted 76.9% and those with low literacy (i.e., ≤4 years of formal education) 31.4%. A cognitive screening test with a CERAD screening battery like structure, adapted for the local population, and an Instrumental Activity of Daily Living Scale for the elderly (IADL-E), developed specifically for the local elders was used to screen the cohort. A total of 532 subjects (21.6%) who met the operational criteria for cognitive and functional impairment and a random sample of 247 of unimpaired control subjects (10%) underwent structured clinical and detailed neuropsychological assessment, on tests standardized on the local population for dementia, using the Diagnostic and Statistical Manual of Mental Disorders-4th Edition (DSM IV). Age was stratified into 5-years age brackets for analysis. We found an overall crude prevalence rate of 3.77% in age ≥55 years and 4.86% in age ≥65 years. The count of patients with dementia were as follows- 55–59 years, n = 0 (0%); 60–64 years, n = 12 (1.6%, 95%CI = 0.70 to 2.50); 65–69 years, 10 (1.56%, 95%CI = 0.60 to 2.52); 70–74 years n = 12 (2.62%, 95%CI = 1.16 to 4.08); 75–79 years n = 21 (6.77%, 95%CI = 3.98 to 9.57); 80–84 years, n = 18 (12.33%, 95%CI = 7.0 to 17.66); and 85+ years, n = 20 (17.7%, 95%CI = 10.66 to 24.74). On regression, only age but not gender or education had any association with prevalence of dementia. In conclusion, in this population, the overall prevalence of dementia was found to be higher than any reported so far from the subcontinent. Only the age, but not the gender or the level of formal education had any effect on the prevalence. We did not find any dementia in patients below 60 years of age thereby reconfirming the findings of other workers from the sub-continent. The prevalence increased with increasing age in a nearly exponential fashion. Possible explanations for the higher prevalence in this study include the urban life-style, and increasing life expectancy at birth.

FC10-2

Investigating poor insight in Alzheimer's disease: A survey of research approaches

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Persons with Alzheimer's disease (AD) often seem to have a poor insight into functional deficits brought about by the dementia process. There are many indications that preserved insight into deficits in dementia is of advantage to a person with AD. Various research approaches have been adopted to investigate poor insight related to AD. The purpose of this survey was to present various research approaches for investigating poor insight into deficits in AD. The study is based on a literature survey. The findings show that concept of poor insight has been investigated in detail from different perspectives. Each one of the perspectives found, the neuropsychological, the psychological and the socio-psychological has its merits, but none of them has yet led to study results that make us fully understand what poor insight implies and involves. We need integrated knowledge from the different perspectives, and in multidisciplinary research settings we believe that such knowledge could be developed.

Keywords: Alzheimer's disease, coping strategies, impaired awareness, poor insight, self-unawareness. Published in Dementia (2007) Volume 6 (1) 45–61.

FC10-3

Profiles of donepezil use in 38,315 patients with dementia

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Between 2.17 and 4.78 million people were estimated to have Alzheimer's disease in the US in the year 2000 and conservative methods have projected this may increase to up to 13 million individuals by the year 2050. Globally, there are 24.3 million people with dementia today and this is projected to double every 20 years to 81.1 million individuals by the year 2040. Donepezil is a reversible selective inhibitor of acetylcholinesterase approved for the treatment of mild to moderate Alzheimer's disease. Up to 40% of AD patients in the United States are prescribed donepezil. To determine the profiles of patients who are prescribed donepezil and thus explore the possibility of differential use of donepezil exist amongst patient subgroups. The data used for this study were extracted from the Veterans Affairs (VA) Healthcare System National databases. The study population included 38,315 patients diagnosed with dementia, who were seen in fiscal year 1999. Patients were identified as having a diagnosis of dementia if they had at least two outpatient encounters in a mental health clinic with a primary or secondary diagnosis of dementia. The data were analyzed using the Receiver Operator Characteristic to identify profiles Donepezil was prescribed to 42% of patients diagnosed with dementia during the study period. The majority of those who received prescriptions for donepezil were over 70 years (45% vs. 30%). For those aged 70 years or older, 42% had annual incomes less than $20,000: among those with annual incomes less than $10,000 males were more significantly more likely than females to receive donepezil (45% vs. 27%). For those aged between 50 to 70 years, those with annual incomes over $20,000 were more likely to be on donepezil (43% vs 35%). Rates of donepezil use were consistent with previously reported rates. However, in this study we found that older females and younger males with lower annual incomes were least likely to have been prescribed donepezil. Our results suggest that certain patient subgroups could be better target for interventions with donepezil to minimize the impact of dementia on the health care system.

FC10-4

Memantine treatment in a trial of patients with moderate to severe Alzheimer's disease: Response across multiple domains

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Memantine is a moderate-affinity, uncompetitive antagonist of N-methyl-D-aspartate (NMDA) receptors, approved in the United States and Europe for the treatment of moderate to severe Alzheimer's disease (AD). In a previously published 28-week, double-blind, placebo-controlled memantine monotherapy trial (20 mg/day) in

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patients (N = 252) with moderate to severe AD, patients treated with memantine performed significantly better on measures of cognition (SIB), function (ADCS-ADL$_{19}$), and global status (CIBIC+) than patients treated with placebo. In this post hoc analysis, the percentage of patients in each treatment group who demonstrated a response on more than one of four outcome measures [SIB, ADCS-ADL19, CIBIC+, and the Neuropsychiatric Inventory (NPI)] was compared. A positive response on each scale was defined as any improvement over baseline for each measure (score increase for SIB and ADCS-ADL19, score decrease for NPI, or score < 4 for CIBIC+). Proportions of responders in the two groups were compared for all combinations of two, three, or four outcome measures, using the generalized estimating equations model with treatment group, visit, and the interaction of treatment group with visit as fixed effects, and with baseline value as covariate. Across the trial, the proportion of responders in the memantine group was significantly higher compared to the placebo group for the combinations of SIB and ADCS-ADL$_{19}$ (P = .014), SIB and CIBIC+ (P = .002), SIB and NPI (P < .001), ADCS-ADL$_{19}$ and CIBIC+ (P = .037), and ADCS-ADL$_{19}$ and NPI (P = .007). Comparison of the proportion of responders for all three-measure combinations involving the SIB and the combination of all four outcome measures also demonstrated a significant advantage for memantine over placebo across the entire trial. There were no combinations in which the proportion of responders was higher in the placebo group than the memantine group. In this trial, the proportion of responders across multiple outcome measures was significantly higher in memantine-treated patients than in those treated with placebo. All responder combinations involving cognition were significant across the trial, as were most combinations involving function. These data indicate that in moderate to severe AD patients, response to memantine treatment can occur across multiple domains of cognition, function, global status, and behavior.

FC10-5

CSF Aβ42, Tau and phosphorylated Tau are biomarkers for Alzheimer's disease neuropathology and predict development of Alzheimer's disease in patients with mild cognitive impairment

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The predictive biomarkers for Alzheimer's disease (AD) have been intensively studied recently because the importance of early and accurate diagnosis increases when the treatment opportunities evolve. Decreased levels of cerebrospinal fluid (CSF) Aβ42 together with increased Tau and phospho-Tau levels are able to distinguish AD patients from healthy controls or patients with other neurological disorders with relatively good accuracy.

Our objective was to evaluate the relationship between AD neuropathology, i.e. amyloid plaques and neurofibrillary tangles, and CSF Aβ42, Tau and phospho-Tau levels. We also studied the predictivity of these biomarkers for AD in patients with mild cognitive impairment (MCI).

The neuropathologic study included 79 AD patients, 29 patients with other neurological disorders and 15 healthy controls. The CSF sample was obtained an average of 2.7 years prior to death. A detailed quantitative neuropathological examination was performed after the death. The study on MCI patients included 60 controls and 79 MCI patients. The medical and neuropsychological examination was performed and the CSF sample was obtained at the baseline. The cognitive status was assessed during the follow-up. Thirty-three MCI patients developed dementia during an average of 3.5 years follow-up (progressive MCI patients) whereas 46 MCI patients remained stable (stable MCI patients). CSF Aβ42, Tau and phospho-Tau were measured by using a commercial ELISA assay.

In the neuropathologic study, the ante mortem CSF Aβ42, Tau and phospho-Tau levels were associated with amyloid and neurofibrillary pathology in brain. The ratio of CSF phospho-Tau and Aβ42 was the most accurate in distinguishing patients with AD neuropathology from other subjects. In the MCI study, the progressive MCI patients had decreased CSF Aβ42 levels and increased Tau and phospho-Tau levels when compared to controls or stable MCI patients. The stable MCI patients had similar CSF biomarker values to the controls. The best predictor of developing AD in MCI patients

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was the combination of decreased CSF Aβ42 and increased phospho-Tau levels.

The CSF Aβ42, Tau and phospho-Tau are related to AD neuropathology. The pathological changes of the biomarker levels occur early during the course of the disease, and can predict development of AD in patients with cognitive impairment.

FC10-6

Levels of Beta-Secretase (BACE1) in cerebrospinal fluid as a predictor of risk in mild cognitive impairment

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Context: Recently, we and others have discovered elevated beta-secretase (BACE1) activity in the brains of patients with sporadic Alzheimer's disease (AD) compared to healthy control (HC) individuals. Now we are particularly interested in whether BACE1 can be identified in the cerebrospinal fluid (CSF) of patients with mild cognitive impairment (MCI), a population at high risk for AD. The possible presence of BACE1 in the CSF of AD and MCI has so far gone unreported.

Objective: To examine whether BACE1 could be identified in the cerebral spinal fluid of patients with mild cognitive impairment, a population at high risk for AD.

Design: We evaluated cerebrospinal fluid BACE1 levels by two sandwich ELISAs, BACE1 enzymatic activities by synthetic fluorescence substrate, and total A β levels by sandwich-ELISA. Participants 80 sporadic AD patients, 59 MCI patients, and 69 healthy controls (HC) were recruited from two independent research centers.

Results: Increased CSF-levels of BACE1 protein were associated with increased risk ratio for MCI when compared to HC and AD. Similarly, MCI patients showed increased levels of BACE activity when compared to HC and AD. For total A β and tau, increased CSF-levels were associated with a higher risk of MCI when compared to HC. BACE1 activity was significantly correlated with BACE1 protein level and A β level, with A β being itself correlated with the BACE1 protein level.

Conclusion: Significant elevation of BACE1 levels and activities in CSF is an indicator of MCI, which could be an early stage of AD.

FC10-7

The long term clinical follow up of Alzheimer's disease patients immunised with amyloid Aβ – peptide

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Immunization with amyloid β-peptide (Aβ) has been proposed as a novel treatment for Alzheimer's disease (AD). Experimental models and human clinical trials have shown that A β accumulation in the brain, a key feature of the disease, can be reversed by immunotherapy. However, whether removal of amyloid plaques is associated with a good clinical outcome is unclear. In addition, some patients developed meningoencephalitis, halting the clinical trials and raising concerns about the safety of such a therapeutic approach. In Southampton we are co-ordinating a collaborative clinical and neuropathological follow-up of all 80 patients who were in the original trial of A β immunotherapy run by Elan Pharmaceuticals Inc completed in August 2000. All survivors from the original cohort are being cognitively assessed 6 monthly until death. Initial examination of the brains of 9 subjects from this study show a variable reduction in A β plaques that corresponds with the mean antibody titre of the subjects during the first 84 weeks of treatment. Two subjects, with no evidence of meningoencephalitis, had complete or near complete removal of A β plaques at autopsy but had evidence of a very poor cognitive function prior to death. Long term (80 months) survival analysis of the subjects entering the study shows no evidence of a difference in survival between immunised and non-immunised subjects. However, there is a suggestion that subjects with high mean antibody titres during the first 84 weeks of treatment may have less favourable long term survival and worse initial cognitive outcome compared with control subjects or those with low mean antibody titres. Importantly, there is also a suggestion that subjects with modest

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mean antibody titres during the first 84 weeks of treatment may have more favourable long term survival and better initial cognitive outcome compared with control subjects or those with low antibody titres.

FC10-8

Efficacy and safety of tarenflurbil (Flurizan), a selective Aβ42-lowering agent, in Alzheimer's disease (AD): A phase 2 trial of up to 24 months of treatment

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Background: Tarenflurbil is a Selective Aβ42-Lowering Agent (SALA) that lowers brain levels of Aβ42 in a mouse model of AD and chronic dosing in this model prevents defects in learning and memory, suggesting the potential for tarenflurbil to have disease-modifying properties.
Methods: This was a double-blind, placebo-controlled trial evaluating 400 mg BID and 800 mg BID tarenflurbil treatment in 207 patients with mild-to-moderate AD (MMSE 15–26) for up to 24 months. At randomization, 94% of subjects were on stable acetylcholinesterase inhibitor therapy. Primary outcomes included measures of cognition (ADAS-cog), activities of daily living (ADCS-ADL), and global function (CDR-sb).
Results: A prespecified interaction analysis revealed that mild and moderate AD patients responded differently to tarenflurbil ($P = 0.03$). They were, therefore, analyzed separately. In mild AD patients (MMSE 20–26) taking the 800-mg BID dose, statistically significant benefit was observed at 12 months in activities of daily living with a treatment effect size of $d = 0.44$ ($P = 0.033$) and global function with a treatment effect size of $d = 0.42$ ($P = 0.042$) with a positive trend observed in cognition. At 24 months, the ADCS-ADL treatment effect size had increased to $d = 0.67$ ($P = 0.015$) and the global function effect size increased to $d = 0.72$ ($P = 0.0005$). No benefit was observed in moderate AD patients. Tarenflurbil was considered to be well tolerated for up to 24 months of treatment.
Conclusion: Tarenflurbil has an attractive therapeutic and safety profile in patients with mild AD. This study justifies larger-scale confirmatory trials of tarenflurbil as an amyloid-based intervention strategy for AD treatment.

FC10-9

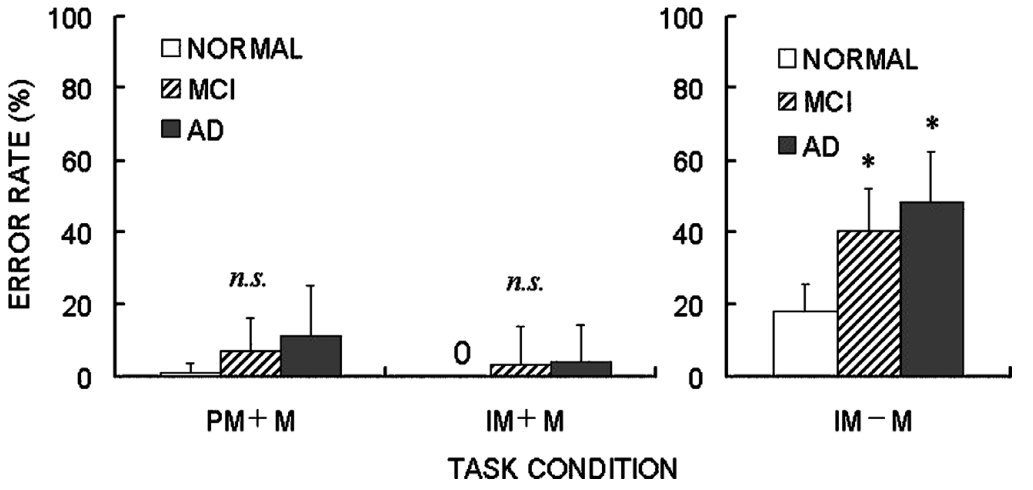
Tarenflurbil (Flurizan), a selective Aβ42-lowering agent, delays time to clinically significant psychiatric events in Alzheimer's disease (AD): Analysis from a 12-month phase 2 trial

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Background: Tarenflurbil is a Selective Aβ42-Lowering Agent (SALA) that lowers brain levels of Aβ42 in a mouse model of AD and chronic dosing in this model prevents defects in learning and memory. These data and the Phase 2 study indicating sustained benefit in activities of daily living, global function and cognition in mild AD patients suggest the potential for tarenflurbil to have disease-modifying properties.
Methods: This was a placebo-controlled, 1-year study evaluating tarenflurbil in 207 patients with mild-to-moderate AD. At randomization, 94% of subjects were on stable acetylcholinesterase inhibitor therapy. An exploratory post-hoc analysis was performed which compared time to adverse psychiatric events between treatment groups.
Results: In subjects with mild AD (MMSE 20–26) there was a significant delay in time to clinically significant adverse psychiatric events in the 800 mg BID group compared to placebo ($P = 0.011$). The median time to event was approximately 106 days in the placebo group among the 35% of this group who had an event. In the 800 mg BID group, the median time to event was greater than 333 days with only 14% of this group having an event. The most common psychiatric events reported in the placebo group were agitation, aggression, confusional state and depression.
Conclusion: In addition to the reported significant benefit observed in activities of daily living ($P = 0.033$) and global function ($P = 0.042$), this exploratory analysis revealed a significant delay in time to

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FC11-1

psychiatric events. These results are consistent with the hypothesis that treatment with tarenflrubil may delay progression of AD.

FC11-1

The impaired imitation of meaningless-movement in mild cognitive impairment and early-stage Alzheimer's disease

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Background: Patients with mild Alzheimer's disease (AD) and people with mild cognitive impairment (MCI) exhibit impaired temporoparietal and posterior cingulate functional. The area from the posterior cingulate to the temporoparietal cortex is involved in in imitating hand action and finger configuration. Although previous reports have speculated that patients with AD perform poorly at imitating meaningless- movement, there is little information on the impairment of meaningless-movement imitation caused by AD.

Objective: This study examined whether the imitation performance of patients with MCI and AD is poorer than that of normal elderly people and whether the performance of meaningless-movement imitation is related to general cognitive impairment in AD.

Methods: Twenty-seven right-handed elderly people older than 65 years participated in the study: 11 were probable AD patients, eight had MCI, and eight were normal controls with no cognitive decline. The participants were recruited among outpatients at a geriatric clinic, and they and their caregivers signed informed consent forms to participate in the study. First, the participants executed tasks in which they pantomimed meaningful movements ($PM^{+}M$) and imitated meaningful movements ($IM^{+}M$) to check for symptoms of apraxia. Then, the participants executed a task in which they imitated meaningless movements ($IM^{-}M$). The patients also completed neuropsychological tests and the Mini-Mental State Examination (MMSE), to assess general cognitive impairment. All tasks were performed within a 2-month period.

Results: The participants with AD and MCI made significantly more errors on the $IM^{-}M$, but not the $PM^{+}M$ or $IM^{+}M$, task (see Figure 1). Correlation analysis, only in patient group, between the error rate on the $IM^{-}M$ task and the neuropsychological tests results revealed a significant correlation between the $IM^{-}M$ error rate and the scores of MMSE, Clock Drawing Test, Stroop Color Test, and Verbal Fluency Test ($r\ (19) = -.48$; $r\ (19) = -.48$; $r\ (19) = -.48$; $r\ (19) = -.54$), but not between significant relationship between the $IM^{-}M$ error rate and other test scores.

Conclusion: The results demonstrated that patients with AD and MCI poorly imitate meaningless-movement and that their performance reflects the cognitive decline associated with the early-stage of their disease. These results suggested that the

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assessment of meaningless-movement imitation might be a potential tool for the initial screening of AD.

FC11-2

Time to dementia onset is predicted by pattern of early cognitive symptoms

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Background: Several studies have identified symptoms that predict dementia, but few studies have examined whether cognitive symptom patterns differ by age and length of time before dementia onset.
Objective: To investigate whether different patterns of cognitive symptoms predict development of dementia on short- (< 5 years) and long-term (5–10 years and >10 years) after examination.
Methods: A representative sample of 382 non-demented 70-year-olds from Gothenburg, Sweden, was examined at ages 75, 79, 81, 83, 85, 88 and 90 years for the outcome of dementia. Cognitive assessments at ages 70, 75 and 79 years consisted of self-report, neuropsychiatric examination and psychometric tests. Four groups were examined in relationship to dementia onset, those with: (1) unimpaired cognition, (2) isolated low memory performance (low memory and unimpaired non-memory performance), (3) isolated low non-memory performance (low non-memory and unimpaired memory performance), and (4) global low cognitive performance (low memory and low non-memory performance).
Results: Short-term dementia onset (< 5 years from examination) was predicted by global low performance at ages 70, 75 and 79 years, and by low non-memory performance at ages 70 and 75. Isolated low memory performance was not a short-term predictor at any examination, but predicted dementia onset 5–10 years after examinations at ages 70 and 75. Self-reported low memory performance was a short-term predictor of dementia at ages 75 and 79.
Conclusions: Our findings support the generally accepted idea that mild memory disturbance is a first symptom of dementia, while a more global pattern of low cognitive performance emerges closer to clinical diagnosis. The findings also suggest that preclinical symptoms of dementia may differ by age.

FC11-3

Anxiety is prominent in persons with amnestic-MCI, but not a predictor of future cognitive decline. Results from a two year prospective study of the Carmel MCI Cohort

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Introduction: Anxiety in our previous study was shown to predict cognitive decline in a community geriatric assessment unit (GAU). However, the literature is sparse regarding the possibility that anxiety predicts cognitive decline in amnestic Mild Cognitive Impairment (MCI). Since cognitive decline has become a major burden, if one could delay the decline by earlier treatment, the savings would be significant. The aim of this longitudinal study was two-fold: to investigate whether anxiety is present in persons with MCI and whether it predicts future dementia.
Methods: 101 persons were entered in the cohort. All had their demographic and health characteristics noted and underwent a comprehensive assessment of their cognitive and affective states. The cohort was reassessed after one and two years.
Results: The average age at baseline was 76y and 36% were with anxiety. They had significantly lower levels of education compared to those without anxiety (8.9y versus 11.4y) and 19% of those with anxiety compare to 11% of those without had concomitant depression. Mean MMSE score was 27 for both groups. After mean follow-up of 14.0 months, 30 subjects had converted to dementia with no difference between the two groups. Only 13% of the participants still had anxiety. After mean follow-up of 25.2 months, another 14 subjects converted to dementia with no difference in the groups and only 8% had anxiety. On Kaplan-Meyer Survival analysis, with conversion to dementia as end-point, no difference was found between the two groups.

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Discussion: Similar conversion rates to dementia were found for the two groups, in contradiction to our previous study. Our theoretical explanation, based on Braak and Braak classification, is that persons turning to a GAU (stage II) have a high anxiety rate since flow of information to hippocampus is impaired necessitating use of an alternate pathway via the amygdala, which is responsible for anxiety. However, by the time a person turns to a specialized cognitive clinic and is diagnosed with amnestic-MCI (stage III /IV) flow via the alternative pathway of the amygdala though prominent, is now impaired. By two years, 44% had converted to dementia (stage V) but only a few were with anxiety, since now the pathway to the amygdala was also impaired. In conclusion, anxiety was prominent in persons with amnestic MCI, but this did not predict future cognitive decline, perhaps since persons with MCI turning to a specialized clinic probably have early dementia.

FC11-4

Risk factors for incident cognitive impairment no dementia in elderly Nigerians

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Introduction: Cognitive Impairment No Dementia (CIND), a pre dementia state has received little attention in developing countries.
Methods: Nondemented subjects from the prevalence wave of the Ibadan site of the IndianapolisIbadan Dementia Project were assessed in two subsequent follow-ups (over 5 years). Demographic, lifestyle, and medical history information were collected during prevalence screening from the Community Screening Interview for Dementia (CSI D). Clinical assessment included a modified version of the CERAD Neuropsychological Battery, a semi structured Informant Interview (for symptoms and activities of daily living), and a physician examination (including history and physical, mental status, and neurologic examination). Subjects were diagnosed as Demented, CIND or Normal. Potential risk factors for CIND were identified initially using univariate chi-square (or Fisher exact tests as appropriate) and t tests. Variables with a p value ≤ 0.10 were included in a multivariate logistic regression model. Odds ratios (OR), 95% confidence intervals, and p values were obtained from the final model.
Results: 2487 persons were screened at prevalence; 393 subjects (154 CIND and 239 normal subjects) were diagnosed in at least one of the two incident waves. 1658 persons were classified as good performers based on their last screening score but not clinically assessed. Significant risk factors from the final logistic regression models comparing incident CIND to diagnosed Normal subjects included female gender (OR: 2.00 $p = 0.0045$) and no school attendance (OR: 2.01 $p = 0.0449$). When we included subjects classified as good performers on the CSI D with the diagnosed Normal subjects, the risk factors identified were: age (OR: 1.06 $p < 0.0001$) and female gender (OR: 2.16 $p = 0.00001$).
Conclusion: Female gender, lack of school attendance, and increasing age are risk factors for incident CIND in elderly Nigerians. These variables have been identified as risk factors for dementia and in populations drawn from developed countries suggesting some commonality in mechanism.

FC11-5

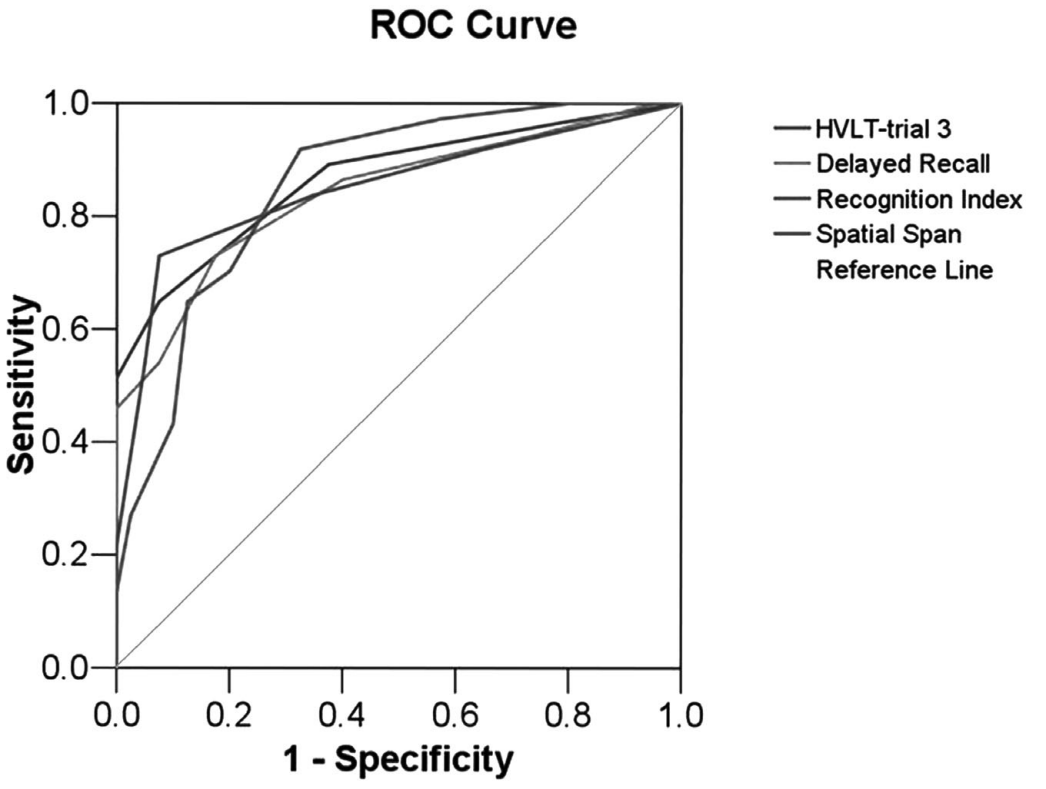
Neuropsychological indicators for differentiating mild cognitive impairment and normal elderly

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Mild cognitive impairment (MCI) is considered a transitional state between normal aging and dementia, with subtle executive dysfunction in addition to memory impairment. The sensitivity and specificity of cognitive measures in identifying MCI individuals need further investigation. This study aimed to explore the sensitivity and specificity of cognitive function in differentiating MCI from normal elderly and to identify powerful neuropsychological indicators in the diagnosis of MCI. The study recruited 38 individuals with amnesic MCI according to Petersen diagnostic criteria and 40 healthy elderly control. The cognitive functions were assessed with a neuropsychological battery tests measuring the cognitive domains of learning, memory, working memory, attention/concentration, processing speed, and executive function. Sensitivity and specificity of cognitive measures was calculated with ROC analysis. There were no significance differences in age

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FC11-5

and education level between MCI group and healthy controls ($P > 0.05$). The scores of Trial 3 (HVLT-trial 3), delayed recall and recognition index of Hopkins verbal learning test could efficiently differentiate MCI from normal elderly ($ROC = 0.87 \pm 0.05$, 0.83 ± 0.05, 0.84 ± 0.05, respectively, $P < 0.001$) (see Figure 1). The score of spatial span could also efficiently differentiate MCI from normal elderly ($ROC = 0.84 \pm 0.05$, $P < 0.001$) (Figure 1). These findings suggest that the immediate memory, delayed memory and working memory are specific for MCI comparing to normal aging. The executive dysfunction may also be a specific domain in amnesic MCI.

FC11-6

Lifestyle factors that predict change in cognitive function in older adults

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Prevention of cognitive decline is gaining increasing attention as population aging with its projected growth in the number of people with dementia poses a major public health threat. Accumulating evidence suggests that health behaviours may act as modifiable risks of cognitive impairment and decline. This study aims to identify health behaviors associated with change in cognitive function in older persons living in the community. Data come from the Suwon Longitudinal Aging Study (SLAS), consisting of a sample of 977 elderly persons aged 65 and older followed up for 2 years. The subjects received 3 annual assessments on their cognitive function with the Mini-Mental State Examination (MMSE). Health behavior variables included smoking, alcohol drinking, physical activity, health checkup, and vegetable consumption. Besides defining individual factors, the number and combinations of behavioral profiles were constructed. Using linear regression analysis with generalized estimating equations, nonsmoking, regular exercise, periodic health checkup, and high vegetable intake were found to be independently associated with an increase incognitive

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function, adjusting for age and gender. After controlling for other socio-demographic and health-related characteristics, vegetable intake and health checkup remained significant predictors. Engaging in more health behaviors was significantly associated with higher cognitive function. MMSE score increased on average 0.70 points ($p < 0.05$) for those adopting one health behavior, and successively by 1.39, 1.57, and 2.35 points with each additional behaviors ($p < 0.001$). Analysis by health behavioral profiles followed a similar pattern, showing a tendency toward increased cognitive functioning by behavioral groupings. The results suggest that lifestyle factors may play an important role in maintaining cognitive function in late life. Participation in multiple health behaviours appears to have a cumulative impact on cognitive function. Further studies are needed to examine the effect of healthy lifestyles in promoting cognitive health and preventing cognitive impairment.

FC11-7

Socio-demographic aspect of cognitive impairment in elderly patients attending geriatric clinic

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To understand the cognitive impairment of ageing, there is a need to appropriate on social situation of these individuals and the available support intensive of financial, medical or social aspects. One of the most divided areas of dependent elderly in the vulnariability for exploitation i.e. physical and psychological.

Objectives: To study the socio demographic profile of cognitive impairment in elderly patients.

Material and methods: Patient aged >60 yrs registered in geriatric OPD were randomly selected. They were evaluated using specially designed proforma to find out sociodemographic data. The minimental state examination scale (MMSE) and socio occupational functioning assessment scale SOFAS) were used to assess cognitive state and level of socio occupational functioning.

Results: A total of 400 patient completed evaluation and 20 patients had cognitive impairment (5%) at MMSE score <24. All are above 70 years. The majority of patients were males (80%), married (50%), living in nuclear family (80%), educated upto the level of intermediate (60%) and significantly lower scene on SOFAS ($p < 0.05$). Hypertension (60%) was more commonly associated with cognitive impairment than other chronic illness.

Conclusion: Cognitive impairment is common in patient aged >60 yrs and associated with cardiovascular disease and significant socio occupational impairment.

FC11-8

Differences in hippocampal MR findings with white matter suppression sequence in MCI and Alzheimer's disease using 3 Tesla MRI

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Background and aims: Cognitive ability among patients with Alzheimer's disease (AD) declines in almost same manner as the disease progresses. The pathology of AD has been thoroughly investigated, while neuroimaging techniques have been limited its possibility mainly due to their resolution. To visualize and compare regional gray matter cell density of hippocampus, entorhinal area and substantia innominata using 3 Tesla (3T) MRI in patients with AD or mild cognitive impairment (MCI), inversion recovery (IR) sequence was employed.

Methods: Subjects were 43 patients with AD, 10 patients with MCI and 12 controls. All scans were performed using a Signa VH/I 3.0 Tesla MR imaging system. We employed IR sequence (TR 4000 ms, TE 20 ms, TI 250 ms) to suppress white matter signals and emphasize gray matter signals. Using gray matter emphasized image, ROIs were positioned on CA1, subiculum, entorhinal area and substantia innominata and their intensity were measured.

Results: The intensity in subiculum and entorhinal area were significantly decreased compared with CA1 ($p < 0.05$) at the beginning of MCI stage. On the other hand, intensity of substantia innominata, which was unchanged during MCI stage, declined after FAST (Functional Assessment Staging) IV stage of AD ($p < 0.05$).

Conclusions: By using 3T MRI, detailed morphological changes of hippocampus, entorhinal area and substantia innominata can be visualized. Furthermore, this method enables to observe longitudinal changes of those structures from MCI to AD

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patients. We believe this is a powerful tool to elucidate AD etiology and to evaluate the efficacy of anti-AD drugs including acetylcholinesterase inhibitor.

FC12-1

Remnant plaques: Regression stage senile plaques of Alzheimer's disease

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To clarify the natural removal processes of the β-amyloid (Aβ) burden in the brain with Alzheimer's disease (AD), we devised a triple-step staining method: Bodian for dystrophic neurites, anti-glial fibrillary acidic protein for astrocytes, and anti-Aβ. We thus examined 24 autopsied AD brains; age at death ranged from 56 to 94 years of age, mean 73.8 ± 10.6 years old; duration of the disease ranged from 3 to 28 years, mean 12.2 ± 5.1 years. A novel form of senile plaques, termed "remnant plaques", was identified in patients with longer disease duration. Remnant plaques were characterized by mesh-like astroglial fibrils within the entire plaque, Aβ deposit debris exhibiting weak Aβ-immunoreactivity, and only a few slender dystrophic neurites. In remnant plaques, amyloid burden was apparently decreased. The density of remnant plaques increased significantly with disease duration. Dual-labeling immunohistochemistry revealed many Aβ-immunoreactive granules in astrocytes and a modest number in microglia, both of which accumulated in senile plaques. We consider amyloid deposits of diffuse and neuritic plaques to be shredded by astrocytic processes from the marginal zone of plaques, and to gradually disintegrate into smaller compartments. Cerebroparenchymal Aβ deposits undergo degradation. After a longstanding resolution process, diffuse and neuritic plaques may finally proceed to remnant plaques in the parahippocampal gyrus. We demonstrate that astrocytes are actively engaged in the natural Aβ clearance mechanism in advanced-stage AD brains, which may provide clues for developing new therapeutic strategies for AD.

FC12-2

Biological and pathological functions of presenilin-dependent intramembrane cleavage variety and precision

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A characteristic of the PS-dependent intramembrane proteolysis is that some cleavage sites have a variety. Because of the variety, the cleavage precision can be defined. The cleavage precision is the ratios of the cleavage occurring in each site. The change of the cleavage precision plays a pathological role, since pathological "gain-of-function" of many familial AD-associated PS or βAPP mutants is considered to be the increase of Aβ42 production induced by change of γ-cleavage precision. However, it is unclear whether any changes of the cleavage precision play biological functions. In this study, cleavages of βAPP, Notch-1 and others were identified and characterized. The characteristics of cleavage precision determining processes of Aβ-like peptides are similar in a couple of substrates. Moreover, the precision determining processes of ICDs are also similar. Since many other type-1 membrane-bound receptors release intracellular domains by PS-dependent intramembrane proteolysis, we suspect that the processes of intramembrane proteolysis by PS/γ-secretase are common in some substrates. Our results predict physiological as well as pathological roles for unusual precision of the PS-dependent intramembrane proteolysis.

FC12-4

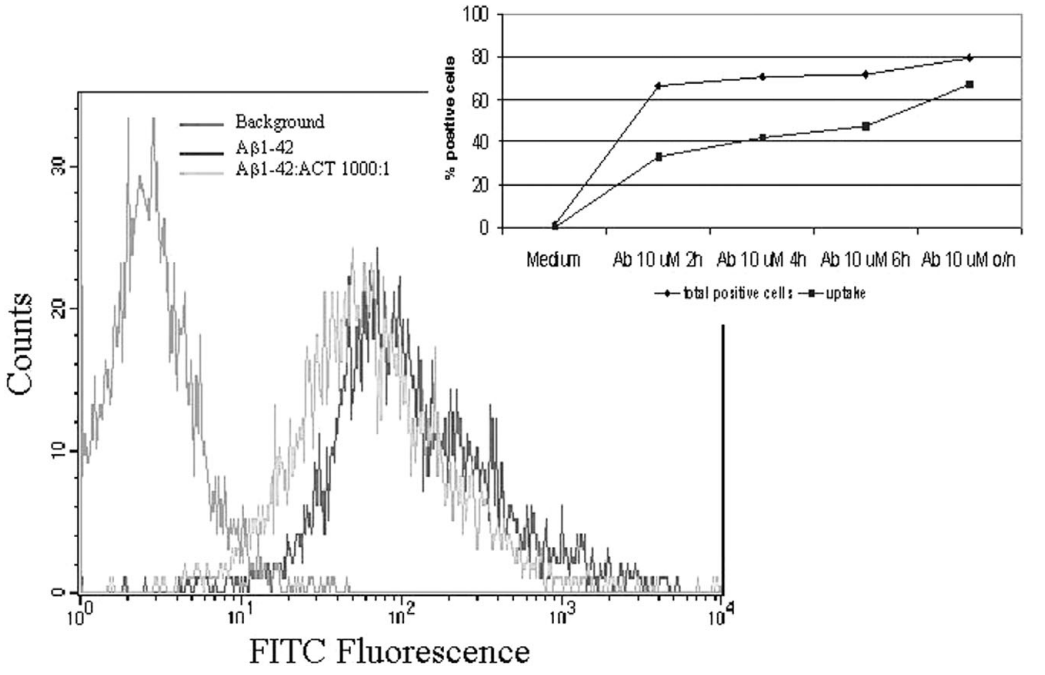
Brain estrogen deficiency accelerates beta amyloid plaque formation in an Alzheimer's disease animal model

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Much evidence indicates that women have a higher risk of developing Alzheimer's disease (AD) than do men. The reason for this gender difference is unclear. We hypothesize that estrogen deficiency in the brains of women with AD may be a key risk factor. In rapidly acquired postmortem brains from women with AD, we found greatly reduced estrogen levels compared to that from age- and gender-matched normal control subjects; AD and control subjects had comparably low levels of serum estrogen.

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FC12-5

To examine the onset and severity of AD pathology associated with estrogen depletion using a gene-based approach, by crossing the estrogen-synthesizing enzyme aromatase gene knockout mice with APP23 transgenic mice, a mouse model of AD, to produce estrogen-deficient APP23 mice. Compared to APP23 transgenic control mice, estrogen-deficient APP23 mice exhibited greatly reduced brain estrogen and early-onset and increased beta amyloid peptide deposition. These mice also exhibited increased beta amyloid peptide production, and microglia cultures prepared from the brains of these mice were impaired in beta amyloid peptide clearance/degradation. In contrast, ovariectomized APP23 mice exhibited plaque pathology similar to that observed in the APP23 transgenic control mice. Our results indicate that estrogen depletion in the brain may be a significant risk factor for developing AD neuropathology.

FC12-5

α1-antichymotrypsin modulates amyloid-β1–42 clearance by astrocytes

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Imbalance between the production and clearance of the amyloid β-peptide (Aβ) is according to the amyloid-cascade-hypothesis a key step in the neuropathology of Alzheimer's disease (AD). Activated astrocytes are found surrounding amyloid plaques in the AD brain and although their role in the disease pathogenesis is poorly understood, recent evidence suggests that they may mediate Aβ degradation in the extracellular space. Astrocytes are the primary source of β1-antichymotrypsin (ACT) in the brain and they also produce pro-inflammatory cytokines and chemokines, which may play an important role in the regulation of Aβ clearance.

Here, we aimed to elucidate whether ACT affects the binding and uptake of Aβ by primary human astrocytes.

FAM-labelled Aβ1-42 and unlabelled Aβ1-42 in the presence/absence of ACT (at molar ratios of Aβ to ACT: 10:1, 100:1 and 1000:1) were incubated on a shaker at room temperature o/n. To analyse Aβ fibril formation/aggregation, the Aβ mixtures were examined using electron microscopy. Fetal human astrocytes and adult astrocytes derived from post-mortem brain tissue (3 AD patients and 1 control patient), were challenged with these Ab mixtures

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for 2h to o/n. Cells were analysed in a Fluorescence Activated Cell Sorter and FAM-positive cells were counted. Cell supernatants were analysed for monocyte chemoattractant protein-1 (MCP-1) using the ELISA technique.

Both fetal and adult astrocytes become FAM-positive in a time and dose-dependent manner and reach a plateau at 8 μM FAM-Aβ1-42 after a minimum of 4 h incubation, where >70% of the fetal cells and >90% of the adult cells become FAM-positive. Astrocyte MCP-1 release was Ab1-42 dose dependently increased and reached a maximum of 30–100% higher than untreated cells at 8–10 μM Aβ1-42. Aβ1–42 incubation with ACT at a ratio of 1000:1 increased Aβ1-42 fibril formation/aggregation, as analysed using EM, and decreased FAM-positive cells with 31% in the adult astrocytes and 8% in fetal astrocytes (fig. 1). In addition, using 0.1% trypan blue, extracellular fluorescence could be quenched and the binding and uptake could be differenciated in fetal astrocytes (fig. 1).

Decreased Aβ elimination by astrocytes in the presence of ACT may precede or be responsible for the accumulation of Aβ in AD.

FC12-6

Memantine lowers the levels of amyloid-β and improves cognitive performance in models of Alzheimer's disease

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Memantine, an uncompetitive antagonist of N-methyl-D-aspartate (NMDA) receptors, is approved for the treatment of moderate to severe Alzheimer's disease (AD). One predominant neuropathological feature of AD is the extracellular deposition of neurotoxic beta-amyloid (Aβ) peptides. We have reported previously that memantine rescues brain cells from the neurotoxic effects of Aβ. Here, we present a summary of several preclinical studies, which together illustrate the potential of memantine to lower brain levels of soluble Aβ and Aβ plaques. We also found using μMRI that memantine reduces the cortical and hippocampal plaque burden in APP/PS1 transgenic mice. Furthermore, memantine was found to improve cognitive performance of double (APP/PS1) and triple transgenic (APP/PS1/tau) mice in several behavioral tests. These data provide strong preclinical evidence for disease-modifying effects of memantine in AD.

FC12-7

Pattern of brain atrophy in subgroups of frontotemporal lobar degeneration

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In recent years a number of studies have been published investigating the pattern of atrophy in the different subtypes of frontotemporal lobar degeneration (FTLD). Very few of these studies have attempted to assess the difference and similarities between the different subtypes. We investigated grey matter loss in 36 FTLD patients (13 frontotemporal dementia (FTD), 9 progressive non-fluent aphasia (PNFA) and 14 semantic dementia (SD) patients) and compared those with 19 Alzheimer's disease (AD) patients and 27 control subjects. Criteria for diagnosis were based on DSM-IV, ICD-10, and the diagnostic criteria developed by Neary *et al.* The following areas were measured: superior, middle and inferior frontal gyrus (SFG, MFG, IFG), orbitofrontal cortex (ORB), insula, rostral and dorsal anterior cingulate gyrus, the hippocampus (Hipp), the entorinal cortex (EC) and the temporal pole (TEMP). All volumes were obtained by manual outlining on MR-images. The pattern of atrophy was compared between groups by using Partial Least Square discriminant analysis. Each dementia group was compared to control subjects and to all other dementia subgroups.

Results see table below: Atrophic areas: Regions that were most atrophic were: In FTD-patients the right ORB, the right SFG, right TEMP, the left ORB and the left SFG. In SD-patients one region was especially important: both sides of the TEMP, while the left EC and insula also were important regions. In PNFA-patients both temporal and frontal structures were affected on the left side of the brain. Most

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Comparison	Sensitivity	Specificity
C v FTD	96	85
C v PNFA	96	89
C v SD	100	93
C v AD	89	74
AD v SD	100	86
AD v FTD	95	85
AD v PNFA	100	100
AD v FTLD	89	92
PNFA v FTD	89	92
FTD v SD	100	93
SD v PNFA	86	100

FC12-7

atrophy was found in left TEMP, EC, insula and SFG.In AD-patients there were only 2 regions that displayed clear signs of atrophy: EC and Hipp.

Conclusion: FTLD-subtypes have a shared pattern of atrophy in many areas of the brain. Some areas or combination of areas seem however to be very characteristic for each subtype. SFG and ORB is bilaterally affected (often more on the right side) in FTD. Especially temporal pole and EC is greatly affected in SD. SD usually display more atrophy either on the left or right side of the brain. PNFA patients displayed more atrophy on the left side of the brain both in temporal and frontal structures. As in FTD PNFA also displayed a more bilateral atrophic pattern in SFG and ORB.

FC12-8

Association of GAPDH, GSTP1 and APOE polymorphisms in Alzheimer's disease and mild cognitive impairment patients

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Many case-control series have observed strong association of GAPDH (glyceraldehyde-3-phosphate dehydrogenase), GSTP1 (glutathione S-transferase pi) and APOE (apolipoprotein E) genes and Alzheimer's Disease (AD), but only few have addressed this association in patients with Mild Cognitive Impairment (MCI). APOE polymorphism has been considered because of its numerous functions related to brain tissue and evidence for an association with AD. GAPD a key enzyme in cellular energy production, but it also plays an important role in several other cellular processes, including neuronal apoptosis and neurodegenerative diseases, including AD. Considering that the glutathione transferase (GST) supergene family encodes isoenzymes that appear to be critical in protection against oxidative stress, we aimed at determining GSTP1 polymorphisms to investigate their role as susceptibility genes for late-onset AD. We evaluated the association of single nucleotide polymorphisms (SNPs) at these genes in patients with MCI and AD. Four different polymorphisms were studied in at least 100 DNA samples of AD patients and healthy controls (CN). SNP genotyping was performed by Real-Time PCR allelic discrimination. For the APOE gene were genotyped 233 individuals among AD, MCI patients and controls. The frequency of the E4 allele was significantly higher in AD patients as compared to controls ($p = 0.007$). In MCI, these findings were distributed exactly in between the AD and control samples (E2: 7.5% CN, 4% MCI, 3% AD; E4: 10% CN, 14% MCI, 28% AD). No significant differences were found in 3 of 4 GAPDH and GSTP1 polymorphisms, considering allelic and genotypic frequencies. The rs1138272 SNP of the GSTP1 allele was less frequent in AD patients ($p = 0.005$). We are performing these analyses to compare the data to MCI patients. The higher frequency of the E4 allele in AD patients, as compared to controls, is in accordance with previous studies performed in several different populations. In patients with MCI, the characterization of the E4 allele may help predict the risk of converting to AD. The evidence of an association between increased risk of AD and the GSTP1 polymorphism supports the hypothesis that GSTP1 could be involved in AD neurodegeneration or apoptosis. The combined analysis of GSTP1 and APOE polymorphisms may help understand the factors might influence the DA development susceptibility, providing a better understanding of the molecular basis of the disease.

FC12-9

Innate immunity and transcription of MGAT-III and Toll-like receptors in Alzheimer's disease patients are improved by bisdemethoxycurcumin

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We have tested a hypothesis that the natural product curcuminoids, which has epidemiologic and experimental rationale for use in AD, may improve the innate immune system and increase amyloid-b (Ab) clearance from the brain of patients with sporadic Alzheimer's disease (AD). Macrophages of a majority of AD patients do not transport Ab into endosomes and lysosomes and AD monocytes do not efficiently clear Ab from the sections of AD brain, although they phagocytize bacteria. In contrast, macrophages of normal subjects transport Ab to endosomes and lysosomes, and monocytes of these subjects clear Ab in AD brain sections. Upon Ab stimulation, mononuclear cells of normal subjects up regulate the transcription of b-1,4-mannosylglycoprotein 4-b-N-acetylglucosaminyltransferase (MGAT3) ($P < 0.001$) and other genes, including Toll like receptors (TLR's), whereas mononuclear cells of AD patients generally down regulate these genes. Down regulation of MGAT3 may be related to defective phagocytosis of Ab, as suggested by inhibition of phagocytosis using MGAT3 siRNA and correlation analysis. Transcription of TLR3, TLR4, TLR5, TLR7, TLR8, TLR9 and TLR10 upon Ab stimulation is severely depressed in AD mononuclear cells. The curcuminoid compound bisdemethoxycurcumin enhanced defective phagocytosis of Ab, the transcription of MGAT3 and TLR's, and the translation of TLR 2. The curcuminoid product bisdemethoxycurcumin may correct immune defects in AD patients and provide a novel approach to AD immunotherapy.

FC13-1

Behavioral and psychological symptoms of dementia in relation to level of cognitive impairment

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Many of the persons with dementia express some behavioral or psychological symptoms, e.g. aggressive behavior, aberrant motor behavior, depression or hallucinations, at some time during the course of the disorder. The aim of the present study was to describe the probability of these symptoms of dementia, in relation to the level of cognitive impairment.

3404 persons with cognitive impairment were selected from two large cross-sectional surveys of people in geriatric care settings, conducted in 1982 and 2000 in the county of Vasterbotten, Sweden. Symptoms were assessed with the Multi-Dimensional Dementia Assessment Scale (MDDAS), subsumed with a rotated factor analysis, and investigated in relation to level of cognitive impairment, measured with the Gottfries' orientation scale.

The factor Passiveness had a strong almost linear correlation to the level of cognitive impairment ($r^2 = 0.23$). Non-linear correlations, with highest prevalences in middle-stage cognitive impairment, were found for aggressive behavior ($r^2 = 0.057$), wandering behavior ($r^2 = 0.065$), restless behavior ($r^2 = 0.14$), verbally disruptive/attention-seeking behavior ($r^2 = 0.099$), regressive/inappropriate behavior ($r^2 = 0.058$), hallucinatory symptoms ($r^2 = 0.021$) and depressive symptoms ($r^2 = 0.029$).

The relation between the level of cognitive impairment and the behavioral and psychological symptoms of dementia were non-linear, with higher prevalence rates in the middle stages of dementia for all symptoms except the symptom passiveness that was almost linearly correlated.

FC13-2

The course of psychiatric symptoms and the use of psychotropic drugs in demented patients in Norwegian nursing homes

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Psychiatric and behavioural symptoms in dementia (BPSD) are common, especially in nursing home settings. They are distressing for patients and caregivers. Few studies have explored the course of these symptoms. This knowledge is crucial for providing appropriate care and making qualified treatment decisions. We have conducted a 1-year follow-up study on the prevalence, incidence and outcome of the

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Table 1 Clinically significant BPSD and the use of psychotropic drugs in nursing home patients with dementia (%) (n=633)

	Psychosis	Depression	Agitation	Any symptom
Prevalence baseline	28.9	20.8	27.4	70.8
Prevalence follow-up	28.2	18.8	28.0	68.6
Present on both occasions[1]	52.1	41.7	52.9	78.8
12 months incidence rate[2]	18.6	13.2	18.6	43.8
	Antipsychotics	Antidepressants	Anxiolytics	Any psychotr.drug
Prevalence baseline	25.9	41.1	22.9	75.0
Prevalence follow-up	26.5	37.8	22.6	71.6
Present on both occasions[1]	75.0	79.2	71.0	88.4
12 months incidence rate[2]	9.6	8.8	8.2	20.9

[1] Percentages of patients who exhibited the symptom/received psychotropic drugs at baseline
[2] Percentages of patients who did not exhibit the symptom/receive psychotropic drugs at baseline

FC13-2

main psychiatric and behavioural symptoms, as well as the use of psychotropic medication in nursing home patients.

A representative sample of 1163 nursing home patients were included. After one year 794 still lived in the same nursing homes. Attrition was because of death (336 patients), moving home (18 patients) or moving to other care facilities (15 patients). Among the 794 patients that were assessed on two occasions one year apart 633 had dementia. A range of standardized psychiatric assessment scales were used, including the Neuropsychiatric Inventory (NPI).

The overall frequency of clinically significant BPSD, according to the NPI, among patients with dementia was 71 per cent at baseline and 69 per cent at follow-up. At least one BPSD symptom was exhibited on both occasions in 79 per cent of the patients. Clinically significant BPSD symptoms were present at follow-up in 44 per cent of the patients that were without such symptoms at baseline (12 months incidence rate). Of the patients that received psychotropic drugs at baseline 88 per cent were still receiving psychotropic drugs at follow-up. The corresponding figures for antipsychotics and antidepressants were 75 per cent and 79 per cent, respectively. There was no difference in the reduction of psychotic symptoms (delusions or hallucinations) between patients that used antipsychotics on both occasions and patients that did not use antipsychotics. Correspondingly, the same pattern was observed for patients with depression and the use of antidepressant.

BPSD are highly prevalent and persistent among nursing homes patients with dementia. The evidence for any substantial effect of psychotropic drugs is weak and rigorous studies on non-pharmacological treatment are scarce. Our study indicates that psychotropic drugs are frequently used although the effect is dubious. Efforts are needed to investigate alternative treatment strategies, and the evaluation of the treatment effect of psychotropic drugs has to be improved.

FC13-4

Behavioral and psychological symptoms: Impact on the time spent caring for individuals with dementia

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There is a paucity of cross-cultural studies of behavioral and psychological symptoms of dementia (BPSD). BPSD are common among people with dementia in developing countries, and there is marked regional variations. The prevalence of, or associations with BPSD in Malaysia is not well documented. The aim of the study is identify the pattern and frequency of BPSD in patients with dementia and the impact of these BPSD on the Care giver burden as evidenced by the impact on time spent caring for patients with dementia. Participants included male and female patients with dementia registered with Memory Clinic at Hospital Tuanku Ja'far, Seremban, Malaysia. The Nuero-Psychiatric Inventory (NPI) was used for the assessment of the pattern and frequency of BPSD and The caregiver activity survey (CAS) was used to measures time spent by caregivers caring for dementia individuals. the results show that the Neuropsychiatric symptoms were common and correlated with caregiver distress, the MMSE and the ADL. The frequency

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of the NPI domains was as follows in a decreasing order: Anxiety 51%, night time behavior disorder 51%, depression 48%, appetite and eating related behavior 45%, delusions 42%, Hallucinations 39%, Agitation 36%, irritability 33%, motor disturbance 33%, Apathy 30%, Disinhibition 21% and Elation 9%. The mean time spent caring for patients with dementia was 407 minutes (6.7 hours)/one patient/per day and this was significantly related to behavioral problems. The study highlights the frequency of neuropsychiatric symptoms in dementia in a Malaysian population and illustrates the strong correlation between the severity of behavioral disturbances and more time needed by the caregiver caring for dementia patients.

FC13-5

Phantom boarders in Japanese persons with dementia- phantom intruder or phantom relatives?

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The term, phantom boarders symptom (PBS) was introduced by Rowan EL, a delusion occurring in the elderly, with or without dementia. The patients believed that someone uninvited was living in their homes. Recently, we have experienced many patients with PBS, and found that there were at least two clinical types of PBS, phantom intruder and phantom relatives. He described an old woman made nightly phone calls of the police department complaining of loud noise and partying upstairs, and he described another old woman complaining of hippies in the attic, making loud conversation and music. The people who moved into the barn, drive the cars around the door yard with the headlights on. These phantom boarders activities were annoying the patients. These delusions and congruent hallucination occurred without other evidence of thought disorder, affective disturbance, or organicity and therefore may be a subset of late paraphrenia. PBS in this condition, is basically persecutory delusion. PB move into the house from external world, often were associated with delusion of theft. Recently Terada S et al used a term, phantom intruder delusion, which clearly describes the characteristics. On the other hand, there is another type of PBS. Boaders were old family member or relatives, late father, mother, grand father, grand mother, nephews and niece. They were not uninvited persons, but very old trustworthy persons never make troubles s. The patient showed no hostility behaveor. They appeared willing to take care of these boarders, prepareing meals or making beds for them, especially in cases of children. These may be referred as phantom relatives. These phantom relatives were already described in Japanese literature. The patients appeared to come back to a world, where fundemental trust was once obtained and absolute security was guaranteed. The difference and similarity will be discussed in terms of genesis of these PBS.

FC13-6

Treatment-resistant depression in the elderly, a single blind RCT

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Background: Up to a third of elderly patients with major depression do not respond to a first course of treatment with an antidepressant. There is a lack of controlled studies evaluating therapies for TRD in late life depression and no randomized controlled studies assessing the efficacy and tolerability of lithium augmentation in elderly patients have been published yet.

Method: Twenty-nine elderly inpatients with major depressive disorder according to DSM-IV who had previously failed to respond to one or more adequate trials with a tricyclic antidepressant or venlafaxine were included in a 6-week, open randomized controlled study with a 2 year follow up. Subjects received either lithium augmentation or the MAO-inhibitor phenelzine. The primary outcome criterion was remission, defined as a final score of 10 or less on the Montgomery-Asberg Depression Rating Scale. Response was defined as at least 50% reduction on the MADRS or the Hamilton Depression Rating Scale (HAM-D).

Results: Twenty-eight subjects completed the trial. Remission on the MADRS was achieved by 33.3% of the lithium patients, compared with none of the phenelzine patients ($p = 0.042$). Response also showed a difference in favour of lithium augmentation ($p = 0.035$ on both the MADRS and the HAM-D). Overall tolerability was good, with no dropouts due to side effects. Subjective memory impairment was more prevalent among patients receiving

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phenelzine (p = .002), and tremors were significantly more prevalent among patients receiving lithium (p = .002). During the two year follow up, 25 patients (86.2%) did achieve remission, particularly on prolonging the lithium treatment (5 patients) or on lithium augmentation to phenelzine (5 patients).
Conclusion: Lithium was more effective than phenelzine in elderly patients with treatment-resistant major depression, while tolerance of both treatments was remarkably good in this group of elderly inpatients with many comorbid medical disorders.

FC13-7

Effect of continuation ECT on relapse prevention of intractable middle-and old-aged depression

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Background and object: ECT has been known to be one of the most efficacious therapies for intractable depression. However, the high relapse rate after response to acute ECT poses a clinical problem. We prospectively studied the short-term effect of acute ECT (phase 1 study) and 6-month relapse rate after response to acute ECT (phase 2 study) in intractable middle-and old-aged depression. The phase 1 study included consecutive patients older than forty-five who had fulfilled the criteria of DSM-4 for major depressive disorder and had been referred to Tohoku University hospital for acute ECT for the first time from January 1, 1995. Thirty three patients were examined. The response rate to acute ECT was 87.9%. The phase 2 study included the responders in the phase 1 study. We followed them for six months, treating them with only continuation pharmacotherapy. Twenty nine patients were examined. The 6-month relapse rate was 41.4%. This time we prospectively studied the effect of continuation ECT (C-ECT) on the prevention of relapse.
Subjects and methods: The phase 3 study included consecutive patients who had relapsed during the phase 2 study. Inclusion criteria were that the patient responded to acute ECT after relapse and that a written informed consent was obtained from the patient. In the phase 3 study we administered C-ECT generally with continuation pharmacotherapy. Following the Kellner's method (1997), the first four ECTs were given at weekly intervals, the second four ECTs every 2 weeks and the third three ECTs every 4 weeks. We prospectively evaluated them with the Hamilton Rating Scale for Depression (HAM-D, 17 items) until relapse. Relapse was defined as a HAM-D score of at least 18 and fulfilling the criteria of major depressive disorder.
Results: Nine relapsers (m:f = 1:8) in the phase 2 study were enrolled in the phase 3 study. Four cases (m:f = 1:3) relapsed in the phase 3 study in spite of concurrent use of C-ECT and pharmacotherapy. However five cases (m:f = 0:5) were kept from relapse with C-ECT and pharmacotherapy during the period of six months.
Conclusions: Even more effective strategies are needed, C-ECT may be an effective treatment option for intractable middle-and old-aged depression which cannot prevent relapse with continuation pharmacotherapy after acute ECT response.

FC13-8

Animal assisted therapy (AAT) for dementia: Is it effective?

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Animal-assisted therapy (AAT) is gaining popularity as part of therapy programs in residential aged care facilities. Humans and pet dogs respond to quiet interaction with a lowering of blood pressure and an increase in neurochemicals associated with relaxation and bonding. These effects may be of benefit in ameliorating behavioural and psychological symptoms in dementia (BPSD). This multi media presentation reviews the evidence for the effectiveness of AAT for Dementia based on controlled trials published between 1960 and 2007. Practical guidelines for the use of AAT in residential facilities will be presented together with video clips of AAT in action. Several small studies suggest that the presence of a dog reduces aggression and agitation, as well as promoting social behaviour in people with dementia. One study has shown that aquaria in dining rooms of dementia care units stimulate residents to eat more of their meals and to gain weight but is limited by the small number of facilities studied. There is preliminary evidence that robotic pets may provide pleasure and interest to people with dementia. Current literature suggests that AAT may ameliorate BPSD and supports it being made more widely available.

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