Conclusions: In animal models of neuro-degenerative disease, neuro-inflammation is associated with cytokine-related sickness behaviours, such as apathy, somnolence and malaise. In this study, we aimed to develop and validate a scale to measure cytokine-related sickness behaviour in humans with dementia.

Methods: Eighty-five patients with a diagnosis of Alzheimer’s disease (n = 64) or Lewy body dementia (n = 21) were recruited through the memory service in Hampshire, UK. 26 putative sickness behaviours were rated on a 4-point scale by a reliable informant. In phase 1, psychometric analysis, using a discrimination index and categorical principal components analysis, identified items that did not contribute significantly to the total scale variance. In phase 2, the retained items formed a scale that was compared with serum cytokine levels to assess biological construct validity. Serum samples were obtained at the time of scale administration for multiplex cytokine immunoassay. Construct validity was assessed further by principal components analysis. Cronbach’s alpha was calculated to assess internal consistency. A subset of participants (n = 15) underwent a 7-day re-test for test–retest reliability. LeCrisp approval was granted (LeCrisp/07/Q1764/78).

Results: Phase 1: 16 items had a discrimination index <0.2, or an eigenvalue <0.5. These items were discarded. Phase 2: construct validity for the remaining 10-item scale was demonstrated by significant correlations between the total scale score and levels of serum IFN-γ ( Spearman’s r = 0.25, P < 0.019) and IL-4 (Spearman’s r = 0.33, P = 0.002). Categorical principal components analysis revealed two groupings of the 10 scale items consistent with the theoretical construct of sickness behaviour, providing further support for the construct validity of the scale. The 10-item scale had high internal consistency (Cronbach’s alpha = 0.85, 95% CI: 0.81–0.89), and high test–retest reliability (ICC = 0.89, 95% CI: 0.68–0.96).

Conclusions: We have presented data to support the validity and reliability of the 10-item.

A POPULATION-BASED STUDY OF DOSING AND PERSISTENCE WITH ANTIDEMENTIA MEDICATIONS

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Introduction: Persistence with antideementia medications at maximum dosages optimises their clinical efficacy. This study assessed the adequacy of dosing and persistence with antideementia medications and the predictors of these variables in this real-world setting.

Methods: The Irish Health Service Executive-PCRS national prescription claims database contained prescription information for 1.6 million people. Patients over 70 years who received at least two prescriptions for donepezil, rivastigmine, galantamine and memantine between January 2006 and December 2010 were included. Rates of dose-maximisation and non-persistence (and predictors of these variables) were analysed.

Results: Between January 2006 and December 2010, 20,720 patients over 70 years received a prescription for an antideementia medication. Rates of non-persistence were 30.1% at 6 and 43.8% at 12 months. Older age (75+ versus ≤75 years; HR = 1.16, 95% CI: 1.06–1.27) and drug type (rivastigmine versus donepezil; HR = 1.15, 95% CI: 1.03–1.27) increased the risk of non-persistence. Non-persistence was lower for those commencing therapy in more recent years (2010 versus 2007; HR = 0.81, 95% CI: 0.73–0.89) and for those on multiple antideementia medications (HR = 0.59, 95% CI: 0.54–0.65, P < 0.001). Persistence was significantly higher when memantine was co-prescribed with donepezil (P < 0.001). Despite most patients on donepezil and memantine receiving a prescription for the maximum drug dose, this dose was maintained for only two-thirds of patients. Patients who were significantly more likely to have their doses of donepezil (HR = 2.16, 95% CI: 1.96–2.34, P < 0.001) and memantine (HR = 6.88, 95% CI: 5.35–8.85, P < 0.001) maximised, if prescribed in more recent years.

Conclusion: There is room for improvement in the dosing and persistence with antideementia medications in the community. Strategies should be implemented to overcome this.

THE FACTOR STRUCTURE OF THE LONG AND SHORT FORMS OF THE CES-D SCALE AND THE VALIDITY OF POSITIVE AFFECT IN OLDER IRISH ADULTS

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Introduction: To investigate the structures of the long and short formats of the Center for Epidemiological Studies Depression Scale (CES-D) and validate the impact of the positive affect factor on physical function and psychological stress.

Methods: Data were obtained from 6,537 respondents from Wave 1 of the Irish Longitudinal Study on Ageing (TILDA), a representative sample of community-dwelling adults aged ≥50 years. Respondents completed the 20-item CES-D. Confirmatory factor analysis was performed to determine the factor structure of the 20-, 10- and 8-item formats of the CES-D. The positive affect factor from each format was then validated against physical disability (instrumental/activities of daily living-ADLs) and perceived stress (4-item perceived stress scale-PSS-4).

Results: Mean and median scores on all formats of the CES-D, ADLs and IADLs were marginally lower than previously reported in other adult populations aged over 50 years. PSS-4 items were consistent with previous studies. All four versions of the CES-D showed good internally consistent (0.87–0.72). The four factor structure of the CES-D achieved good model fit for the 20 and 10 item versions, with the inclusion of three and two residual covariances, respectively. Both 8-item formats, also displayed a good model fit for the expected three factor structure when one or two of the same residual covariances were included, respectively. The positive affect factors from the long and short formats of the CES-D were closely representative of each other and were negatively correlated with disability and perceived stress.

Conclusion: This study supports the factor structure of the long and short formats of the CES-D in the older adult population of Ireland. We also confirm the reliability and validity of using these formats of the scale to measure Positive Affect, a construct of growing importance to the physical and psychological well-being of older adults.

POOR GAIT AND BALANCE PREDICT POOR COGNITIVE FUNCTION AND COGNITIVE DECLINE 10 YEARS LATER

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Introduction: Cross-sectional studies have shown associations between impaired gait and balance and poorer cognitive function, particularly executive function. Gait speed is a good predictor of cognitive decline in later life. Impaired gait, balance and cognitive function have been associated with brain atrophy and white matter hyper-intensities. In this study, we examine whether performance-oriented assessments of gait and balance predicts future cognitive function and decline.

Methods: In 2002, 99 people (median age 70 years [IQR range: 67–74]) underwent cognitive assessment using the CAMCOG and assessment of gait and balance using the Tinetti POAM scale. Repeat cognitive assessment was performed in 2012.

Results: Median total CAMCOG score fell from 98 to 94 (P < 0.007) over 10 years. The median memory score fell from 24 to 23 (P < 0.001) and the executive subscore from 22 to 20 (<0.001). Poorer balance scores were associated with the lower total CAMCOG score (r = 0.24, P < 0.05) and the CAMCOG memory subscore (r = 0.23, P < 0.05) at follow-up and with a greater decline in the total CAMCOG score (r = −0.28, P < 0.05) and the CAMCOG memory subscore (r = −0.38, P < 0.001). Similarly, poorer gait scores were associated with the lower total CAMCOG score (r = 0.20, P < 0.05) and the CAMCOG memory subscore (r = 0.25, P < 0.05) at follow-up and with a greater decline in the total CAMCOG score (r = −0.25, P < 0.05) and the CAMCOG memory subscore (r = −0.24, P < 0.05).

Conclusion: These associations remained significant after adjusting for; age, sex, baseline cognitive function, history of cardiovascular disease, cerebrovascular disease, diabetes, depression, smoking status, alcohol consumption, BMI and psychoactive medication. Considering poor gait and balance are associated with poorer cognitive function 10 years later and greater cognitive decline. In contrast to other reports, our study showed an association with memory but not executive function. Impaired gait and balance may be an early marker of ‘brain ageing’. Cognitive assessment should form part of the evaluation of patients presenting with gait and balance problems.

EXPERIENCES OF HEALTHCARE SERVICES IN PEOPLE WITH MILD COGNITIVE IMPAIRMENT AND THEIR CARERS

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Introduction: Mild cognitive impairment (MCI) is a state between normal cognition and dementia. It is common, with a prevalence of 3%. While there is a growing body of evidence regarding the healthcare experiences of people with dementia and their carers, little is known about this area in MCI. We set out to investigate the experiences of people with MCI (PWMCI) and their carers (‘advocates’) within healthcare services, including changes they would like to see made to these services.

Methods: Semi-structured interviews about experiences of healthcare services were carried out with 23 PWMCI and 20 advocates; the data were analysed qualitatively (using a grounded theory approach) and the results used to design a two surveys of healthcare experience (one for PWMCI and one for advocates). The surveys were administered by post to 281 PWMCI and their linked advocates.

Results: One hundred and forty-six completed questionnaires were received from PWMCI and 98 from advocates. A number of issues and suggested improvements were identified, the most important of which were: Both groups reported low rates of receiving ‘formal’ support from health or social care services (6%) despite the fact that 75% respondents in both groups felt that they needed more help and support. Both groups requested provision of more information on a wide variety of topics. PWMCI wanted to be assessed with ‘more appropriate’ tests and advocates commonly requested that communication from the service be improved.
Conclusions: PWMC1 and their advocates felt inadequately supported by healthcare services. Specific complaints related to being cared for within a service that appeared to be designed principally to meet the needs of people with dementia and that communication and information provision was suboptimal.

CONTROL ORIENTATION AS A MEDIATOR OF THE SOCIAL GRADIENT IN DEPRESSION: A ROLE FOR LEARNED HELPLESSNESS?

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Introduction: Individuals from more disadvantaged social backgrounds are significantly more likely to suffer the burden of depressive illness. Social causative frameworks postulate that low socio-economic status (SES) exposes individuals to more stressors which may lead to negative emotional states. This study examines whether Seligman’s concept of learned helplessness, which has loss of individual control as its defining feature, has theoretical utility for understanding group differences in rates of depressive illness.

Sampling methods: The sample comprised 7,193 respondents aged 50 years and over who were participating in the first wave of the Irish Longitudinal Study on Ageing. Depression was indexed using the Centre for Epidemiological Studies Depression Scale (CES-D) and SES was operationalised using household income quintiles. Psychosocial stressors included traumatic life events, number of chronic diseases, functional limitations, sensory impairment, and unemployment. Psychosocial control was indexed using the control subscale of the CASP19 quality-of-life measure.

Results: There was a clear social gradient in the prevalence of depression. Those in the lowest income quintile were 4.14 times (95% CI = 2.89–5.93) more likely to have depression compared with those in the highest income quintile. Household income was found to be inversely associated with the likelihood of experiencing a range of psychosocial stressors that are known to be damaging to mental health; and experience of these stressors was in turn associated with lower scores on the control subscale of the CASP19 measure. Statistical adjustment for intra-personal control explained up to 46% of the social gradient in depression, while simultaneous adjustment for control scores and the psychosocial stressors explained up to 65% of the association.

Conclusions: That control functions as a mediator of the effect of income on depression is an encouraging finding and suggests avenues for intervention. The implications of this work for theory and practice will be discussed.

PREFERENCES OF OLDER PEOPLE REGARDING EARLY DIAGNOSIS OF ALZHEIMER’S DISEASE: BEFORE AND AFTER A BRIEF DISCUSSION OF THE BENEFITS AND RISKS

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Introduction: Although early diagnosis of Alzheimer’s disease (AD) has many benefits, there are also potential hazards. We examined preferences of people aged 65 years or more regarding early diagnosis of AD before and after a discussion of the benefits and risks.

Methods: Hospital inpatients (59) and community residents (47) were asked, using a 7-point Likert scale ranging from (1) ‘strongly disagree’ to (7) ‘strongly agree’, (a) would you want to be assessed for AD if you had a problem like forgetfulness that might be due to early dementia (Assessment); (b) would you want to be told if you have AD (Disclosure); and (c) would you want to be assessed for possible AD even if you or your family had not reported any problems (Screening). The questions were repeated after subjects were presented with brief information on the benefits (availability of treatment, knowing what is wrong, support from family and plan for the future) and risks (psychological impact, risk that others might be overprotective) of an AD diagnosis and asked to rank the relative importance of these factors.

Results: Subject preferences for Disclosure [mean (SD)] 6.0 (1.2) and Assessment 5.6 (1.2) were significantly (P < 0.001) more positive than for Screening 4.7 (1.8). Following discussion of benefits and hazards, there were slight decreases in the mean Disclosure [95% CI [-0.1, 0.1]] and Assessment [0.1, 0.4] preferences and a significant reduction (P < 0.0001) in Screening preference. Subjects rated all potential benefits as of greater significance to them than the potential risks. However, concern that others might be overprotective was the only independent predictor of a reduction in preferences for Screening for AD in multivariate analysis.

Conclusions: Although most older people are positive about assessment and disclosure of AD, there is less enthusiasm for screening and this is further reduced by considering the potential risks of diagnosis.

IS DELIRIUM A MARKER FOR UNDETECTED CHRONIC COGNITIVE IMPAIRMENT?

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Introduction: Dementia and delirium are common, important and underdiagnosed in elderly medical inpatients. Screening for dementia in patients presenting with delirium may represent an important opportunity to improve low levels of dementia diagnosis and ultimately patient care. This pilot study aims to address this by identifying how many patients with delirium also have undetected chronic cognitive impairment.

Methods: Admissions to two medical wards were screened for delirium as best practice using the CAM assessment, MMSE and CLOX1 and diagnosed using DSM-IV criteria. Those patients with delirium were then recruited to form the subject group. Consent was given by the patients or if they lacked capacity a consultee declaration given by a nominated next of kin (NOK).

Results: Forty-nine patients aged over 70 years (mean age 83, range 70–95) were screened for delirium. Delirium was identified in 17 (35%). Of those with delirium we recruited nine (no proxy available in four and four excluded due to palliative care). Of the nine recruited using interview and the IQCODE, we identified chronic cognitive impairment in seven with mean IQCODE scores of 3.96 (range 3.5–4.43). This was undetected in 5 (60%).

Conclusion: We have demonstrated a large proportion of patients presenting with delirium also had chronic cognitive impairment with the majority being previously undetected. This demonstrates that an admission to hospital with delirium is a clear and neglected opportunity to diagnose undelivered chronic cognitive impairment and subsequently dementia.