Contempo 2005:
Le malattie dell'anziano
Gardone Riviera (BS), 28-29/4/2005

IL DATA BASE COME STRUMENTO PER MONITORARE L'EFFICACIA IN GERIATRIA

Roberto Bernabei

Riferimenti bibliografici

(1)
Lancet. 1999 Apr 10;353(9160):1205-6.
High-quality clinical databases: breaking down barriers.
Black N.
Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, UK.
PMID: 10217078 [PubMed - indexed for MEDLINE]

(2)
Qual Saf Health Care. 2003 Oct;12(5):348-52.
Directory of clinical databases: improving and promoting their use.
Black N, Payne M.
Department of Public Health & Policy, London School of Hygiene & Tropical Medicine, London WC1E 7HT, UK. nick.black@lshtm.ac.uk

BACKGROUND: The controversy surrounding the actual and potential use of clinical databases partly reflects the huge variation in their content and quality. In addition, use of existing clinical databases is severely limited by a lack of knowledge of their availability. OBJECTIVES: To develop and test a standardised method for assessing the quality (completeness and accuracy) of clinical databases and to establish a web based directory of databases in the UK. METHODS: An expert group was set up (1). to establish the criteria for inclusion of databases; (2). to develop a quality assessment instrument with high content validity, based on epidemiological theory; (3). to test empirically, modify, and retest the acceptability to database custodians, face validity and floor/ceiling effects; and (4). to design a website. RESULTS: Criteria for inclusion of databases were the provision of individual level data; inclusion in the database defined by a common circumstance (e.g. condition, treatment), an administrative arrangement, or an adverse outcome; and inclusion of data from more than one provider. A quality assessment instrument consisting of 10 items (four on coverage, six on reliability and validity) was developed and shown to have good face and content validity, no floor/ceiling effects, and to be acceptable to database custodians. A website (www.docdat.org) was developed. Indications over the first 18 months (number of visitors to the site) are that it is increasingly popular. By November 2002 there were around 3500 hits a month. CONCLUSIONS: A website now exists where visitors can identify clinical databases in the UK that may be suitable to meet their aims. It is planned both to develop a local version for use within a hospital and to encourage similar national systems in other countries.
PMID: 14532366 [PubMed - indexed for MEDLINE]

(3)
J Gerontol A Biol Sci Med Sci. 1999 Jan;54(1):M25-33.**Characteristics of the SAGE database: a new resource for research on outcomes in long-term care. SAGE (Systematic Assessment of Geriatric drug use via Epidemiology) Study Group.**
Bernabei R, Gambassi G, Lapane K, Sgadari A, Landi F, Gatsonis C, Lipsitz L, Mor V.
Istituto di Medicina Interna e Geriatria, Universita Cattolica del Sacro Cuore, Rome, Italy.

BACKGROUND: Because there is a lack of databases specific to long-term care, standardized assessments of nursing home residents are seen as a potential new resource for studying an important but neglected population. We describe the design and principal population characteristics of the first integrated database combining detailed clinical information and administrative claims data. METHODS: We studied nearly 300,000 residents admitted between 1992 and 1994 to all Medicare/Medicaid certified nursing homes of five U.S. states (Kansas, Maine, Mississippi, New York, and South Dakota). The database crosslinks: (a) Resident Data: over 350 items (demographic, diagnostic, clinical, and treatments) collected with the Minimum Data Set; (b) Drug Data: brand name, dosage route, and frequency of administration for all drugs consumed by each resident; (c) Medicare Data: eligibility and inpatient hospital claims; (d) Facilities Data: structural and staffing information on nursing homes; and (e) Country Data: information on population, health professions and facility data, and economic parameters. RESULTS: Ninety-two percent of the residents were aged 65 years and older. Residents were predominantly white (85%) and female (72%). The average number of medical diagnoses was above three, and residents were receiving an average of six medications. Sixty-five percent of residents had at least one hospital claim following the initial assessment, most commonly related to cardiovascular diseases and metabolic disorders. Fifty-five percent of the facilities were for-profit and 33% were of small size. Quality indicators and staffing level varied significantly by state. CONCLUSIONS: The SAGE (Systematic Assessment of Geriatric drug use via Epidemiology) database provides a unique resource to study the relation between treatments received and outcomes experienced, particularly functional and health services outcomes, that have not been possible before in very old, frail people.
PMID: 10026659 [PubMed - indexed for MEDLINE]

(4)
Med Care. 1998 Feb;36(2):167-79.
Validity of diagnostic and drug data in standardized nursing home resident assessments: potential for geriatric pharmacoepidemiology. SAGE Study Group. Systematic Assessment of Geriatric drug use via Epidemiology.
Gambassi G, Landi F, Peng L, Brostrup-Jensen C, Calore K, Hiris J, Lipsitz L, Mor V, Bernabei R.
Istituto di Medicina Interna e Geriatria, Universita Cattolica del Sacro Cuore, Rome, Italy. giovanni_gambassi@brown.edu

OBJECTIVES: The Health Care Financing Administration requires that patients admitted to certified nursing homes be assessed with the Minimum Data Set, a data collection instrument containing more than 300 demographic, diagnostic, clinical, and treatment variables. Long-term care databases potentially may be used to assess the outcomes of specific treatments as well as drug effectiveness. The authors sought to ascertain reliability and validity of diagnostic and drug data in a database obtained by merging the Minimum Data Set with detailed information on drugs consumed by each resident. METHODS: A population of 296,379 residents of 1,492 nursing homes in Kansas, Maine, Mississippi, New York, and South Dakota participated in the study between 1992 and 1994. Minimum Data Set clinical diagnoses were contrasted with selected resident characteristics and a variety of symptoms and treatments. Limited to individuals who had been hospitalized in the 6 months preceding the first assessment, Minimum Data Set diagnoses were compared with those on the hospital discharge claims maintained in the Medicare Provider Analysis and Review database. Finally,

the probability that the use of selected drugs predicted the correspondent gender-specific, age-specific, or unique labeled indication was estimated. RESULTS: The positive predictive value for Minimum Data Set diagnoses compared with gender or function measures exceeded 0.9, and it was 0.8 for specific symptoms and 0.6 for virtually all other comparisons. The positive predictive value for Minimum Data Set diagnoses compared with those from hospital claims was approximately 0.7 for all chronic medical conditions, except for depression and asthma/chronic obstructive pulmonary disease/emphysema. The positive predictive value for acute/subacute diagnoses (ie, pneumonia, urinary tract infection, anemia) that may resolve during hospital stay was less than 0.5. The positive predictive value for selected drugs, except estrogens, compared with age and gender was close to 1.0 in all cases. When compared to their labeled indication, the positive predictive value was more than 0.6 for all drugs considered, with 0.97, 0.91, and 0.87 for tacrine and Alzheimer's disease, antidiabetics and diabetes mellitus, and L-dopa and Parkinson's disease, respectively. CONCLUSIONS: These findings point to the overall validity of the drug and clinical data in this Minimum Data Set-based data set. Additional validation efforts will determine whether this data set can be used for studies of geriatric pharmacoepidemiology and for analyses of the influence of different policies and practices on residents' outcomes.
PMID: 9475471 [PubMed - indexed for MEDLINE]

(5)
Am Heart J. 2000 Jan;139(1 Pt 1):85-93.
Management of heart failure among very old persons living in long-term care: has the voice of trials spread? The SAGE Study Group.
Gambassi G, Forman DE, Lapane KL, Mor V, Sgadari A, Lipsitz LA, Bernabei R.
Istituto di Medicina Interna e Geriatria, Universita Cattolica del Sacro Cuore, Rome, Italy.

BACKGROUND: Increasing prevalence, use of health services, and number of deaths have made congestive heart failure (CHF) a new epidemic in the United States. Yet there are no adequate data to guide treatment of the more typical and complex cases of patients who are very old and frail. METHODS: Using the SAGE database, we studied the cases of 86,094 patients with CHF admitted to any of the 1492 long-term care facilities of 5 states from 1992 through 1996. We described their clinical and functional characteristics and their pharmacologic treatment to verify agreement with widely approved guidelines. We evaluated age- and sex-related differences, and we determined predictors of receiving an angiotensin-converting enzyme (ACE) inhibitor by developing a multiple logistic regression model. RESULTS: The mean age of the population was 84.9 +/- 8 years. Eighty percent of the patients 85 years of age or older were women. More than two thirds of patients underwent frequent hospitalizations related to CHF in the year preceding admission to a long-term care facility. Coronary heart disease and hypertension were the most common causes. Half of the patients received digoxin and 45% a diuretic, regardless of background cardiovascular comorbidities. Only 25% of patients had a prescription for ACE inhibitors. The presence of cardiovascular comorbidity, already being a recipient of a large number of medications, a previous hospitalization for CHF, and admission to the facility in recent years were associated with an increased likelihood of receiving an ACE inhibitor. The presence of severe physical limitation was inversely related to use of ACE inhibitors, as were a series of organizational factors related to the facilities. CONCLUSIONS: Patients in long-term care who have CHF little resemble to those enrolled in randomized trials. This circumstance may explain, at least in part, the divergence from pharmacologic management consensus guidelines. Yet the prescription of ACE inhibitors varies significantly across facilities and depends on organizational characteristics.
PMID: 10618567 [PubMed - indexed for MEDLINE]

(6)
Arch Intern Med. 2000 Jan 10;160(1):53-60.
Effects of angiotensin-converting enzyme inhibitors and digoxin on health outcomes of very old patients with heart failure. SAGE Study Group. Systematic Assessment of Geriatric drug use via Epidemiology.
Gambassi G, Lapane KL, Sgadari A, Carbonin P, Gatsonis C, Lipsitz LA, Mor V, Bernabei R.
Istituto di Medicina Interna e Geriatria, Universita Cattolica del Sacro Cuore, Rome, Italy.

BACKGROUND: Randomized trials have shown that angiotensin-converting enzyme (ACE) inhibitors reduce mortality and morbidity, and improve symptoms and exercise tolerance in selected patients with congestive heart failure (CHF). There is, however, no evidence on the effectiveness of ACE inhibitors in the typical, very old and frail patients with CHF. OBJECTIVE: To compare the effects of ACE inhibitors and digoxin on 1-year mortality, morbidity, and physical function among patients aged 85 years. METHODS: We conducted a retrospective cohort study using the SAGE database, a long-term care database linking patient information with drug utilization data. Among 64637 patients with CHF admitted to all nursing homes in 5 states between 1992 and 1995, we identified 19492 patients taking either an ACE inhibitor (n = 4911) or digoxin (n = 14890). Record of date of death was derived from Medicare enrollment files, and we used the part A Medicare files to identify hospital admissions and discharge diagnoses. As a measure of physical function, we used a scale for activities of daily living performance. The effect of ACE inhibitors was estimated using Cox proportional hazards models with digoxin users as the reference group. RESULTS: The overall mortality rate among ACE inhibitor recipients was more than 10% less than that of digoxin users (relative rate, 0.89; 95% confidence interval, 0.83-0.95). Mortality was equally reduced regardless of concomitant cardiovascular conditions and baseline physical function. Treatment with ACE inhibitors was associated with a tendency toward reduced hospital admissions that was more evident among patients with greater functional impairment. The adjusted relative rate for hospitalization for any reason was 0.96 (95% confidence interval, 0.91-1.01). The rate of functional decline was greatly reduced among ACE inhibitor recipients (relative rate, 0.74; 95% confidence interval, 0.69-0.80), and this effect was consistent and independent of background comorbidity and baseline physical function. CONCLUSIONS: These data suggest that survival and functional benefits of ACE inhibitor therapy extend to patients with CHF 85 years and older, and mostly women, both systematically underrepresented in randomized trials. Alternatively, digoxin has a detrimental effect in this population.
PMID: 10632305 [PubMed - indexed for MEDLINE]

(7)
J Psychiatr Res. 2001 May-Jun;35(3):187-91.
Treatment with atypical antipsychotics: new indications and new populations.
Glick ID, Murray SR, Vasudevan P, Marder SR, Hu RJ.
Professor of Psychiatry, Stanford University School of Medicine, 401 Quarry Road, Suite No. 2122, Stanford, CA 94305, USA. iraglick@stanford.edu

Atypical antipsychotics have revolutionized the treatment of schizophrenia, becoming the treatment of choice for patients not only during their first episode, but also throughout their life course. Of note, as of 1999 more than 70% of prescriptions for these drugs are being prescribed for conditions other than schizophrenia, such as bipolar disorder and geriatric agitation. While there have been very few controlled trials that have established the efficacy of the atypical antipsychotics for these "off-label" uses, there have been a large number of open trials and case reports. The few controlled trials suggest that the atypical antipsychotics may be useful for affective disorders (both mania and depression), geriatric conditions such as senile dementia and aggression, as well as a variety of other disorders. Atypical agents may be particularly helpful for elderly, child, or adolescent patients who are especially susceptible

to the side effects of medications and whose risk of tardive dyskinesia is high but further controlled studies are necessary.
PMID: 11461715 [PubMed - indexed for MEDLINE]

(8)
J Am Geriatr Soc. 2003 Sep;51(9):1287-98.
Consensus statement on improving the quality of mental health care in U.S. nursing homes: management of depression and behavioral symptoms associated with dementia.
American Geriatrics Society; American Association for Geriatric Psychiatry.
PMID: 12919243 [PubMed - indexed for MEDLINE]

(9)
J Clin Psychiatry. 2003 Sep;64(9):1106-12.
The use of atypical antipsychotics in nursing homes.
Liperoti R, Mor V, Lapane KL, Pedone C, Gambassi G, Bernabei R.
Centro di Medicina dell'Invecchiamento, Universita Cattolica del Sacro Cuore, Rome, Italy. Rosa_Liperoti@brown.edu

BACKGROUND: Use of atypical antipsychotics for "off-label" indications, such as behavioral and psychological symptoms of dementia, depression, and bipolar disorder, have been frequently reported, although not systematically studied. We describe the pattern of atypical antipsychotic use among nursing home residents and identify demographic and clinical correlates. METHOD: We conducted a cross-sectional study on 139,714 nursing home residents living in 1732 nursing homes in 5 U.S. states from Jan. 1, 1999, to Jan. 31, 2000. Data were obtained from the computerized Minimum Data Set (MDS) assessment records. RESULTS: Behavior problems associated with cognitive impairment were manifest in 86,514 residents, and, of these, 18.2% received an antipsychotic. Approximately 11% received an atypical antipsychotic, while 6.8% received a conventional agent. Clinical correlates of atypical antipsychotic use were Parkinson's disease (adjusted odds ratio [OR] = 1.57, 95% confidence interval [CI] = 1.34 to 1.84), depression (OR = 1.35, 95% CI = 1.24 to 1.46), antidepressant use (OR = 1.38, 95% CI = 1.27 to 1.49), Alzheimer's disease (OR = 1.21, 95% CI = 1.12 to 1.32), non-Alzheimer dementia (OR = 1.15, 95% CI = 1.07 to 1.24), and cholinesterase inhibitor use (OR = 1.74, 95% CI = 1.52 to 1.98). Severe functional impairment was inversely related to atypical antipsychotic use (OR = 0.76, 95% CI = 0.65 to 0.89). CONCLUSION: Atypical antipsychotics are now used more than conventional antipsychotic agents in U.S. nursing homes. Indications and dosages seem appropriate relative to labeling. Clinical and demographic differences between atypical and conventional antipsychotic users tend to be relatively small, suggesting that other factors may explain the choice of prescribing physicians. The impact of facility factors, economic forces, and physician characteristics needs to be investigated.
PMID: 14628988 [PubMed - indexed for MEDLINE]

(10)
BMJ. 2004 Jul 10;329(7457):75. Epub 2004 Jun 11.
Atypical antipsychotic drugs in the treatment of behavioural and psychological symptoms of dementia: systematic review.
Lee PE, Gill SS, Freedman M, Bronskill SE, Hillmer MP, Rochon PA.

Rotman Research Institute, Baycrest Centre for Geriatric Care, 3560 Bathurst Street, Toronto, ON, Canada M6A 2E1. pelee@providencehealth.bc.ca

OBJECTIVE: To review the role of oral atypical antipsychotic drugs in the management of the behavioural and psychological symptoms of dementia (BPSD). DATA SOURCES: Medline, Embase, and the Cochrane Library. Reference lists were reviewed and experts were contacted to identify additional trials. STUDY SELECTION: Double blind randomised controlled trials that evaluated the four oral atypical antipsychotic therapies for BPSD. REVIEW METHODS: Two reviewers assessed trial validity independently. DATA EXTRACTION: Demographics of patients, study duration, dose of antipsychotic, primary end points, adverse events. RESULTS: 77 abstracts were reviewed. Five randomised trials (1570 patients) evaluating risperidone and olanzapine were identified. The quality of trials was generally good. Most participants were in an institution (> 96%), elderly (weighted mean 82.3 years), and had Alzheimer's disease (76.3%). Trials lasted 6-12 weeks. Treatment with atypical antipsychotic drugs was superior to placebo for the primary end point in three of the five trials. Two trials comparing risperidone with haloperidol did not find any differences in the primary measures of efficacy. Adverse events were common and included extrapyramidal symptoms, somnolence, and abnormal gait. CONCLUSIONS: Although atypical antipsychotic drugs are being used with increasing frequency, few randomised trials have evaluated their use for BPSD. Limited evidence supports the perception of improved efficacy and adverse event profiles compared with typical antipsychotic drugs.
PMID: 15194601 [PubMed - indexed for MEDLINE]

(11)
Arch Intern Med in press.
Conventional and atypical antipsychotics and the risk of hospitalization for ventricular arrhythmias or cardiac arrest.
Liperoti R, Gambassi G, Lapane KL, Chiang C, Pedone C, Mor V, Bernabei R.

(12)
J Clin Psychiatry in press.
Cerebrovascular events among elderly patients treated with conventional or atypical antipsychotics.
Liperoti R, Gambassi G, Lapane KL, Chiang C, Pedone C, Mor V, Bernabei R.

(13)
CMAJ 2002;167:1269-1270.
Risperidone (Risperdal): increased rate of cerebrovascular events in dementia trials.
Wooltorton E.
PMID: 12451085 [PubMed - indexed for MEDLINE]

(14)
CMAJ 2004;170:1395.
Olanzapine (Zyprexa): increased rate of cerebrovascular events in dementia trials.
Wooltorton E.

PMID: 15111472 [PubMed - indexed for MEDLINE]

(15)
BMJ. 2005 Feb 26;330(7489):445. Epub 2005 Jan 24.
Atypical antipsychotic drugs and risk of ischaemic stroke: population based retrospective cohort study.
Gill SS, Rochon PA, Herrmann N, Lee PE, Sykora K, Gunraj N, Normand SL, Gurwitz JH, Marras C, Wodchis WP, Mamdani M.
Institute for Clinical Evaluative Sciences, 2075 Bayview Avenue, Toronto, ON, Canada. gills@pccchealth.org

OBJECTIVE: To compare the incidence of admissions to hospital for stroke among older adults with dementia receiving atypical or typical antipsychotics. DESIGN: Population based retrospective cohort study. SETTING: Ontario, Canada. Patients 32,710 older adults (< or =

65 years) with dementia (17,845 dispensed an atypical antipsychotic and 14,865 dispensed a typical antipsychotic). MAIN OUTCOME MEASURES: Admission to hospital with the most responsible diagnosis (single most important condition responsible for the patient's admission) of ischaemic stroke. Observation of patients until they were either admitted to hospital with ischaemic stroke, stopped taking antipsychotics, died, or the study ended. RESULTS: After adjustment for potential confounders, participants receiving atypical antipsychotics showed no significant increase in risk of ischaemic stroke compared with those receiving typical antipsychotics (adjusted hazard ratio 1.01, 95% confidence interval 0.81 to 1.26). This finding was consistent in a series of subgroup analyses, including ones of individual atypical antipsychotic drugs (risperidone, olanzapine, and quetiapine) and selected subpopulations of the main cohorts. CONCLUSION: Older adults with dementia who take atypical antipsychotics have a similar risk of ischaemic stroke to those taking typical antipsychotics.
PMID: 15668211 [PubMed - in process]

(16)
Am J Psychiatry. 2004 Jun;161(6):1113-5.
Atypical antipsychotics and risk of cerebrovascular accidents.
Herrmann N, Mamdani M, Lanctot KL.
Institute for Clinical and Evaluative Sciences, University of Toronto, Toronto, Ontario, Canada. n.herrman@utoronto.ca

OBJECTIVE: Randomized controlled trials have suggested that at least one atypical antipsychotic may be associated with an increased risk of stroke in older people with dementia. This study examined the association between atypical antipsychotic use and stroke in the elderly. METHOD: The authors conducted a retrospective population-based cohort study of patients over the age of 66 by linking administrative health care databases. Three cohorts-users of typical antipsychotics, risperidone, and olanzapine-were identified and compared. RESULTS: Subjects treated with typical antipsychotics (N=1,015) were compared with those given risperidone (N=6,964) and olanzapine (N=3,421). Model-based estimates adjusted for covariates hypothesized to be associated with stroke risk revealed relative risk estimates of 1.1 (95% CI=0.5-2.3) for olanzapine and 1.4 (95% CI=0.7-2.8) for risperidone. CONCLUSIONS: Olanzapine and risperidone use were not associated with a statistically significant increased risk of stroke compared with typical antipsychotic use.
PMID: 15169702 [PubMed - indexed for MEDLINE]

(17)
J Am Geriatr Soc. 2004 May;52(5):719-24.
Anemia is associated with disability and decreased physical performance and muscle strength in the elderly.
Penninx BW, Pahor M, Cesari M, Corsi AM, Woodman RC, Bandinelli S, Guralnik JM, Ferrucci L.
Sticht Center on Aging, Section on Gerontology and Geriatric Medicine, Wake Forest University School of Medicine, Winston-Salem, North Carolina, USA. Brendap@ggzba.nl

OBJECTIVES: To examine the association between anemia and disability, physical performance, and muscle strength in older persons. DESIGN: Cross-sectional. SETTING: Community-dwelling older persons in the Chianti area in Italy. PARTICIPANTS: A total of 1,156 persons aged 65 and older participating in the InChianti Study ("Invecchiare in Chianti," i.e., Aging in the Chianti Area). MEASUREMENTS: Anemia was defined according to World Health Organization criteria as a hemoglobin concentration below 12 g/dL in women and below 13 g/dL in men. Disability in six basic and eight instrumental activities of daily living was assessed. Physical performance was assessed using the short physical performance battery (4-m walk, balance, and chair stands), which yields a summary performance score ranging from 0 to 12 (high). Muscle strength was determined using knee extensor and handgrip

strength assessments. RESULTS: Overall, 11.1% of the men and 11.5% of the women had anemia. After adjustment for age, sex, body mass index, Mini-Mental State Examination score, creatinine level, and presence of various comorbid conditions, anemic persons had more disabilities (1.71 vs 1.04, P=.002) and poorer performance (8.8 vs 9.6, P=.003) than persons without anemia. Anemic persons also had significantly lower knee extensor strength (14.1 vs 15.2 kg, P=.02) and lower handgrip strength (25.3 vs 27.1 kg, P=.04) than persons without anemia. Further adjustment for inflammatory markers (interleukin-6, C-reactive protein, tumor necrosis factor-alpha) did not change these associations. CONCLUSION: Anemia is associated with disability, poorer physical performance, and lower muscle strength. Further research should explore whether treating anemia has a beneficial effect on the functional status of older persons.
PMID: 15086651 [PubMed - indexed for MEDLINE]

(18)
J Gerontol A Biol Sci Med Sci. 2004 Mar;59(3):249-54.
Hemoglobin levels and skeletal muscle: results from the InCHIANTI study.
Cesari M, Penninx BW, Lauretani F, Russo CR, Carter C, Bandinelli S, Atkinson H, Onder G, Pahor M, Ferrucci L.
Sticht Center on Aging, Wake Forest University School of Medicine, Winston-Salem, NC 27157, USA. mcesari@wfubmc.edu

BACKGROUND: Anemia is associated with reduced physical performance and muscle strength. The aim of the study was to explore whether anemia and hemoglobin levels are associated with differences in quantitative and qualitative measures of muscle and fat. METHODS: The study sample consisted of 909 participants 65 years and older enrolled in the "Invecchiare in Chianti" (InCHIANTI) study, a prospective population-based study of older people aimed at identifying risk factors for late-life disability. All the analyses were performed considering continuous hemoglobin levels as well as the dichotomous anemia variable (defined according to World Health Organization criteria as hemoglobin <12 g/dL in women and <13 g/dL in men). A peripheral quantitative computed tomography (pQCT) scan was performed in all participants to evaluate total, muscular, and fat cross-sectional areas of the calf and relative muscle density. Ankle extension strength was measured using a hand-held dynamometer. Linear regression analyses were used to assess the multivariate relationship of pQCT and skeletal muscle strength measures with hemoglobin levels and anemia after adjustment for demographics, chronic conditions, medication use, and other biological variables. RESULTS: Participants were aged 74.8 +/- 6.8 years. In our sample, 94 participants (10.3%) were anemic. Hemoglobin levels were significantly associated with muscle density (beta = 0.225 [SE, standard error 0.098], p=.02), muscle area/total area ratio (beta=0.778 [SE 0.262], p=.003), fat area/total area ratio (beta=-0.869 [SE 0.225]; p<.001). Skeletal muscle strength and muscle density were highly associated with anemia (beta=-3.266 [SE 1.173], p=.005 and beta=-0.816 [SE 0.374], p=.03, respectively). Results did not change when analyses were rerun in a restricted sample of participants not affected by major medical conditions. CONCLUSION: The present study shows that hemoglobin levels are associated with the parameters of body composition obtained by pQCT, and that decreases in muscular strength measures occur in the presence of anemia.
PMID: 15031309 [PubMed - indexed for MEDLINE]

(19)
Osteoporos Int. 2004 Sep 28; [Epub ahead of print]
Bone density and hemoglobin levels in older persons: results from the InCHIANTI study.
Cesari M, Pahor M, Lauretani F, Penninx BW, Bartali B, Russo R, Cherubini A, Woodman R, Bandinelli S, Guralnik JM, Ferrucci L.
Sticht Center on Aging, Wake Forest University School of Medicine, Medical Center Boulevard, NC 27157, Winston Salem, North Carolina, USA.

Hypoxemia has been recognized as a risk factor for bone loss. The aim of the present study is to investigate the relationship of bone mass and density measures with anemia and hemoglobin levels in a large sample of older community-dwelling persons. The study is based on data from 950 participants enrolled in the "Invecchiare in Chianti" (Aging in the Chianti area, InCHIANTI) study. All the analyses were performed considering continuous hemoglobin levels as well as the dichotomous anemia variable (defined according to WHO criteria as hemoglobin <12 g/dl in women and <13 g/dl in men). A peripheral quantitative computerized tomography (pQCT) scan of the right calf was performed in all participants to evaluate total bone density, trabecular bone density, cortical bone density, and the ratio between cortical and total bone area. Linear regression analyses were used to assess the multivariate relationship of pQCT bone measures with anemia and hemoglobin levels after adjustment for demographics, chronic conditions, muscle strength and biological variables. Participants were 75.0 (SD 6.9) years old. In our sample, 101 participants (10.6%) were anemic. In women, coefficients from adjusted linear regression analyses evaluating the association between pQCT bone measures (per SD increase) and hemoglobin levels/anemia showed significant associations of anemia with total bone density (beta=-0.335, SE=0.163; P=0.04) and cortical bone density (beta=-0.428, SE=0.160; P=0.008). Relationships with borderline significance were found for the associations of anemia with trabecular bone density and the ratio between cortical and total bone area. Significant associations were found between hemoglobin levels and trabecular bone density (beta=0.112, SE=0.049; P=0.02), total bone density (beta=0.101, SE=0.046; P=0.03), cortical bone density (beta=0.100, SE=0.046; P=0.03) and the ratio between cortical bone and total area (beta=0.092, SE=0.045; P=0.04). In men, significant associations were found for hemoglobin levels with total bone density (beta=0.076, SE=0.036; P=0.03) and cortical bone density (beta=0.095, SE=0.41; P=0.02). A borderline significance was reported for the association between anemia and cortical bone density. We concluded that anemia and low hemoglobin levels are negatively and independently associated with bone mass and density. The bone loss associated with hemoglobin levels mainly occurs in the cortical bone. Women with lower hemoglobin levels demonstrate a higher bone loss than male counterparts.
PMID: 15455197 [PubMed - as supplied by publisher]

(20)
Am J Clin Nutr. 2004 Feb;79(2):289-94.
Antioxidants and physical performance in elderly persons: the Invecchiare in Chianti (InCHIANTI) study.
Cesari M, Pahor M, Bartali B, Cherubini A, Penninx BW, Williams GR, Atkinson H, Martin A, Guralnik JM, Ferrucci L.
Sticht Center on Aging, Wake Forest University Health Sciences, Winston-Salem, NC 27157, USA. mcesari@wfubmc.edu

BACKGROUND: Muscle strength and physical performance in old age might be related to the oxidative damage caused by free radicals. OBJECTIVE: The objective was to assess the correlation of plasma concentrations and daily dietary intakes of antioxidants with skeletal muscle strength and physical performance in elderly persons. DESIGN: This study is part of the Invecchiare in Chianti (InCHIANTI) study, which was conducted in 986 Italians aged > or = 65 y. Physical performance was assessed on the basis of walking speed, ability to rise from a chair, and standing balance. Knee extension strength was assessed with a hand-held dynamometer. The European Prospective Investigation into Cancer and Nutrition (EPIC) questionnaire was used to evaluate the daily dietary intakes of vitamin C, vitamin E, beta-carotene, and retinol. Plasma alpha- and gamma-tocopherol concentrations were measured. Adjusted linear regression analyses were used to calculate regression coefficients per SD increase in plasma concentrations and daily dietary intakes. RESULTS: In adjusted analyses, plasma alpha-tocopherol was significantly correlated with knee extension (beta = 0.566, P = 0.003) and the summary physical performance score (beta = 0.044, P = 0.008). Plasma gamma-tocopherol was associated only with knee extension strength (beta = 0.327, P =

0.04). Of the daily dietary intake measures, vitamin C and beta-carotene were significantly correlated with knee extension strength, and vitamin C was significantly associated with physical performance (beta = 0.029, P = 0.04). CONCLUSIONS: Plasma antioxidant concentrations correlate positively with physical performance and strength. Higher dietary intakes of most antioxidants, especially vitamin C, appear to be associated with higher skeletal muscular strength in elderly persons.
PMID: 14749236 [PubMed - indexed for MEDLINE]

(21)
Aging Clin Exp Res. 2004 Aug;16(4):259-69.
Community care in Europe. The Aged in Home Care project (AdHOC).
Carpenter L, Gambassi G, Topinkova E, Schroll M, Finne-Soveri H, Henrard JC, Garms-Homolova V, Jonsson P, Frijters D, Ljunggren G, Sorbye LW, Wagner C, Onder G, Pedone C, Bernabei R.
Centre for Health Services Studies, University of Kent, United Kingdom.
G.I.Carpenter@kent.ac.uk

BACKGROUND AND AIMS: Community care for older people is increasing dramatically in most European countries as the preferred option to hospital and long-term care. While there has been a rapid expansion in Evidence-Based Medicine, apart from studies of specific interventions such as home visiting and hospital at home (specialist visits or hospital services provided to people in their own homes in the community), there is little evidence of characteristics of the recipients of community care services or the organisation of services that produce the best outcomes for them and their informal carers. The AdHOC Study was designed to compare outcomes of different models of community care using a structured comparison of services and a comprehensive standardised assessment instrument across 11 European countries. This paper describes the study and baseline data. METHODS: 4,500 people 65 years and older already receiving home care services within the urban areas selected in each country were randomly sampled. They were assessed with the MDS-HC (Minimum Data Set-Home Care) instrument, containing over 300 items, including socio-demographic, physical and cognitive characteristics of patients as well as medical diagnoses and medications received. These data were linked to information on the setting, services structures and services utilization, including use of hospital and long-term care. After baseline assessment, patients were re-evaluated at 6 months with an abbreviated version of the instrument, and then at the end of one year. Data collection was performed by specially-trained personnel. In this paper, socio-demographics, physical and cognitive function and provision of hours of formal care are compared between countries at baseline. RESULTS: The final study sample comprised 3,785 patients; mean age was 82+/-7.2 years, 74.2% were females. Marital and living status reflected close family relationships in southern Europe relative to Nordic countries, where 5 times as many patients live alone. Recipients of community care in France and Italy are characterised by very high physical and cognitive impairment compared with those in northern Europe, who have comparatively little impairment in Activities of Daily Living and cognitive function. The provision of formal care to people with similar dependency varies extremely widely with very little formal care in Italy and more than double the average across all levels of dependency in the UK. CONCLUSIONS: The AdHOC study, by virtue of the use of a common comprehensive standardised assessment instrument, is a unique tool in examining older recipients of community care services in European countries and their widely varied organisation. The extreme differences seen in dependency and hours of care illustrate the probable contribution the study will make to developing an evidence based on the structure, quantity and targeting of community care, which will have major policy implications.
PMID: 15575119 [PubMed - in process]