pertension, serum cholesterol, and diabetes mellitus decreases the risk of Parkinson’s disease (PD). We therefore examined the epidemiologic association of PD with hypertension, serum total cholesterol, and diabetes mellitus by conducting a detailed meta-analysis of all studies published regarding this subject. METHODS: A systematic comprehensive literature search was performed using PubMed, Embase, and CINAHL (until March 2012) for observational cohort and case-control studies using relevant keywords. Pooled relative risk (RR) was calculated using random effects model. Pre-specified subgroup analysis was performed to assess the source of heterogeneity, according to study design, number of covariates adjusted and adjusted for BMI and cardiovascular diseases. Subgroup and sensitivity analysis were also done. Heterogeneity and publication bias were also assessed.

RESULTS: 24 studies were included in the analysis. The pooled risk ratio of PD due to hypertension (n=8) was 0.78 (95% CI, 0.67-0.92, 12-71.85%), due to high serum cholesterol (n=7) was 0.95 (95% CI, 0.77-1.17, I² = 75.86%), and due to diabetes (n=14) was 0.94 (95% CI, 0.76-1.16, I² = 89.62%). Subgroup analysis showed a significant difference for hypertension but non-pesticide-related chronic cardiovascular disease (interaction <0.001). Pooled analysis of cohort studies for diabetes showed a pooled diabetes mellitus risk ratio of 1.34 (95%CI, 1.12-1.60, I² = 76.77%). We found no significant difference in any subgroup analysis. CONCLUSIONS: We found evidence of significant inverse associations of hypertension, hypercholesterolemia, and diabetes mellitus with the risk of PD. Further well-designed investigations of the association of vascular risk factors with the risk of PD are needed, particularly large-scale prospective studies.

HEALTH SERVICES - Cost Studies

PHS13 COSTS ANALYSIS OF A MOBILE PHONE TELEMONITORING SYSTEM FOR GYCAEMIC CONTROL IN PATIENTS WITH DIABETES MELLITUS (DM) IN SPAIN: PRELIMINARY RESULTS

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OBJECTIVES: Technological developments allow remote monitoring of patients and improve diabetes care. A mobile phone telemonitoring system (TM) might improve the ability of DM patients to engage in treatment. The objective is to estimate the annual costs that implementing a TM for glycamic control costs in DM patients might represent to the National Health System and to society in Spain. METHODS: First, a systematic review of the literature was conducted to determine cost drivers in DM TM. Electronic databases were searched to identify national and international clinical and economic articles, published between January, 2001 and December, 2011, reporting on the clinical benefits, health resources used and costs associated to DM TM. Second, based on the data gathered, and adapted for Spain, and on the assumption that TM favours treatment compliance, a mathematical model was applied to determine the variation in costs associated to macro and micro DM complications risk reduction derived from hypothetically reaching 100% of uncompliant DM patients become compliant (n=100%). RESULTS: A total of 3.539 articles were identified; 48 were reviewed. TM decreases emergency visits (83%), disease related hospitalization (51%), visit to the outpatient clinic (40%) and to the specialist (59%). Reduction of indirect costs reaches 120.82 €/visits). Assuming that 100% of uncompliant DM patients become compliant (n=100%). The mean cost savings per avoided case rise from 572 € (291 € in 2007 to 718 € (375 €) in 2010. The overall share of outpatient costs is about 72% (60%). About 45% of the total savings is attributable to hered effect. The herd effect per avoided case decreases over time while immu-

PHS16 RELATIONSHIP OF POLYMEDICATION IN CONTROLLING BLOOD PRESSURE: COMPLIANCE, PERSISTENCE, COSTS AND INCIDENCE OF NEW CARDIOVASCULAR EVENTS

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OBJECTIVES: To determine the relationship of polypharmacy on blood pressure (BP) control, compliance, the cost and incidence of cardiovascular events (CVD) in patients with moderate/severe hypertension. METHODS: An observational multicenter retrospective study. We evaluated patients >30 years who started a third antihypertensive treatment during 2004-2006. Depending on the number of chronic medications, we established 3 groups: regular consumption of >5 drugs, drugs from 3 to 5 and ≤ 2 drugs. RESULTS: 3,369.1 vs. 4,362.1 and s 4,902.3 (P < 0.001). The presence of CVD was associated with therapy non-compliance (odds ratio [OR] 1.9, 95% confidence interval [95% CI] 1.1 to 3.6) and lower BP control (OR 1.4 [95% CI 1.1-2.0], P < 0.017). Overage age: 69.4 years and 55.5% women. The group of >5 drugs showed better BP control (51.8 vs. 47.0 and 41.1%, P < 0.001). The overall share of outpatient costs is about 72% (60%). About 45% of the total savings is attributable to hered effect. The herd effect per avoided case decreases over time while immu-

PHS17 COSTS OF INFLUENZA A(H1N1)2009 INFECTION DURING THE PANDEMIC AND THE POST-PANDEMIC-SEASONAL WAVES

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OBJECTIVES: We estimated the impact of influenza A(H1N1)2009 infection in terms of patients’ health care services utilization, work absenteeism and costs, both during the pandemic (2009-10) and postpandemic-seasonal (2010-11) waves in Spain. METHODS: Longitudinal, multi-centre study of in- and outpatients with RT-PCR confirmed diagnosis of influenza at pandemic(PAND) and postpandemic-seasonal(pOST) waves. Health care and social resources utilization were the main vari-

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