OP76 CHRONIC KIDNEY DISEASE IN CHILE: FINDINGS FROM THE CHILEAN NATIONAL HEALTH SURVEYS 2009–10 AND 2016–17

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Background Chronic kidney disease (CKD) is a leading global public health problem, with a substantial burden on healthcare systems; decreased quality of life, and poor prognosis for patients. In Chile, there is limited data on CKD prevalence and its distribution across population subgroups that impedes effective decision-making in the healthcare sector. The objectives were to estimate the prevalence of CKD among Chilean adults and examine its associations with sociodemographic characteristics, health behaviours, and comorbidities.

Methods Analysis of cross-sectional data from the two most recent large, nationally-representative Chilean Health Surveys (ENS) 2009–10 and 2016–17. The participants were individuals aged 15+ years with serum creatinine data (ENS 2009–10: n=4777; ENS 2016–17: n=5279). The primary outcome was reduced kidney function (CKD Stages 3a-5) based on estimated glomerular filtration rate (eGFR <60 mL/min/1.73 m²). Increased albuminuria (≥30 mg/g), the secondary outcome measure, was determined using the urine albumin-to-creatinine ratio (ACR) ascertainment among adults aged 40+ years with diabetes and/or hypertension. Both outcomes were analysed using logistic regression and the combined two-survey dataset, with results summarised using odds ratios (OR).

Results CKD prevalence (Stages 1–5) among adults aged 40+ years was estimated using an expanded definition including participants with a reduced eGFR or an eGFR of at least 60 mL/min/1.73 m² but increased albuminuria (Stages 1–2). Analyses were adjusted for non-response and complex survey design.

Results Overall, 3.0% (95% CI: 2.4–3.8%) of adults in ENS 2016–17 had reduced kidney function. After full adjustment, participants with hypertension (OR 2.1; 95% CI 1.08–4.16) and those with diabetes (OR 1.66; 1.04–2.65) had significantly higher odds of reduced kidney function. 15.5% (13.5–17.8%) of adults aged 40+ years with diabetes and/or hypertension had increased albuminuria in 2016–17. Being obese versus normal weight (OR 1.66; 1.08–2.54) and having both diabetes and hypertension versus diabetes alone (OR 2.30; 1.34–3.95) were significantly associated with higher odds of increased albuminuria in fully-adjusted analyses. At least 15.4% of all adults aged 40+ in ENS 2016–17 had CKD (Stages 1–5) according to the expanded definition, including 9.6% of adults with CKD Stages 1–2.

Conclusion There is a high prevalence of Chilean adults at CKD Stages 1–2 that should be considered in the prevention strategies and Chilean healthcare guidelines.

OP77 THE PREVALENCE AND CHARACTERISTICS OF ADVERSE DRUG REACTION-RELATED HOSPITAL ADMISSIONS IN OLDER PATIENTS

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Background Older people experience greater morbidity with a corresponding increase in medication use resulting in a potentially higher risk of adverse drug reactions (ADRs). The aim of this study was to determine the prevalence and characteristics of ADR-related hospital admissions among older patients (≥65 years).

Methods A cross-sectional study of ADR prevalence in patients aged ≥65 years admitted acutely to a large tertiary referral hospital in Ireland over a 7 month period (November 2016–June 2017). A multifaceted review of each hospital admission was undertaken to assess the likelihood of an ADR being a reason for admission (cause of admission or contributing to admission) in the context of the patient’s medication, clinical condition, medical history, comorbidities and investigations. A number of decision aids were also applied by two independent reviewers to assess ADR causality (Naranjo criteria, WHO criteria, Liverpool Algorithm). The avoidability (Halls criteria) and severity (Hartwig severity assessment scale) of the ADR were also assessed. Differences in causality, preventability and severity were reviewed by a third reviewer.

Results In total, 3760 hospital admission episodes (in 3091 patients) were screened and 377 admissions were ADR-related (10.02%, 95% CI 9.06%, 10.98%); 43 admissions were due to ≥2 ADRs (N=424 ADRs). 360 (11.64% 95% CI 10.51%, 12.77%) patients had at least one ADR with 50 (16.18%) patients experiencing ≥1 ADR-related admission. In summary,
219 (58.09%) admissions were caused by an ADR, while ADRs contributed to 158 (41.91%) admissions. For the majority of admissions (N=216, 57.60%) there was no other known acute medical issue that may have acted in synergy with the medication resulting in the ADR. Of the 377 ADR-related admissions, 43 (11.41%) were deemed definitely avoidable and 225 (59.68%) possibly avoidable and 350 (92.84%) were classified as grade severity.

Conclusion One in ten hospital admissions were ADR-related, with approximately 70% potentially avoidable. Interventions are needed to reduce ADRs and improve medication management in older populations.

**Background** Chronic Kidney Disease (CKD) is a leading public health problem, with substantial burden on and economic implications for healthcare systems, mainly from renal replacement treatment (RRT) for End-Stage Kidney Disease (ESKD). In Chile, the prevalence of CKD Stages 1 to 5 in people aged 40 years or older is at least 15.4%, with an increasing rate of adults receiving RRT. The aim of this study is to develop a model to estimate the future burden of the disease in Chile, given the high and rising prevalence of comorbidities for CKD.

**Methods** A dynamic deterministic Markov model was developed to simulate CKD in the Chilean population aged 40+ from the perspective of the Chilean public healthcare system, up to the year 2070. Key parameters: prevalence of CKD by stages, prevalence of hypertension and diabetes, mortality rate and direct costs of treatment, were extracted from nationally-representative Chilean data. Incidence of the disease and progression rates were simulated based on the most relevant international evidence. The model included seven states replicating the natural progression of the disease: from CKD Stage 2 through to Stage 5, ESKD with need of RRT, and death. The progression of CKD was assumed in 1-year cycles and was categorised as slow and fast progression (decrease in the estimated glomerular filtration rate of 3 ml/min/year or 8 ml/min/year, respectively). At the end of each cycle, a proportion of individuals remained in the same state, progressed to the next CKD stage, began RRT or died. We calibrated the model based on international evidence and conducted one-way sensitivity analyses by varying key model parameters to create different scenarios. We used Stata V15.1 (StataCorp, College Station, Texas, USA) to estimate the model parameters and Microsoft Excel Office 365 V2001 was used to construct the Markov model.

**Results** By the year 2070, there is an expected increase in the number of adults with ESKD, ceteris paribus, from 22,300 to 58,000 people, with an expected increase in direct costs of CKD stages 2–5 from £213 million to £506 million. A reduction in the percentage of fast progressors could reduce the total cases of ESKD to 42,933 and the expected direct costs by around £110 million.

**Conclusion** The estimates in this study show an important increase in the cases and costs of CKD. This model can be a useful tool for healthcare planning, with development of preventive or treatment plans to reduce and delay the progression of the disease.