

THE EVOLUTION OF QUALITY OF LIFE (QoL) OVER TIME IN CHRONIC KIDNEY DISEASE PATIENTS (CKD): PERCEPTION OF GENERAL HEALTH BUT NO OTHER QoL- DIMENSION DECLINES OVER THE COURSE OF CKD

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INTRODUCTION

Measuring patient-perception of well-being is a fundamental to estimate the human cost of chronic diseases and to assess the effect of treatments. However, until now factors impinging upon QoL in chronic kidney disease (CKD) patients remain incompletely understood and there is very limited information on the evolution of QoL over time in these patients.

METHODS

We studied a cohort of 206 stage 2-5 CKD patients (age: 61±14 years; M: 56%, diabetics: 29%). The short form of the QoL questionnaire by Rand (SF₃₆), an instrument which measures eight dimensions of QoL [including physical functioning, role physical health, role emotional problem, energy fatigue, emotional well-being, pain, social function, and general health] was applied at enrolment and after one (136 patients), two (n=108) and three (n=118) years. The evolution of SF₃₆ dimensions over-time and the predictors of SF₃₆ changes were analyzed by the Linear Mixed Model (LMM). In the LMM, as potential confounders we tested baseline variables (age, gender, diabetes, background CV comorbidities) as well as for time-evolving biochemical and clinical variables (BMI, album, hemoglobin, C-Reactive Protein, eGFR, urinary protein, blood pressure and total number of drugs).

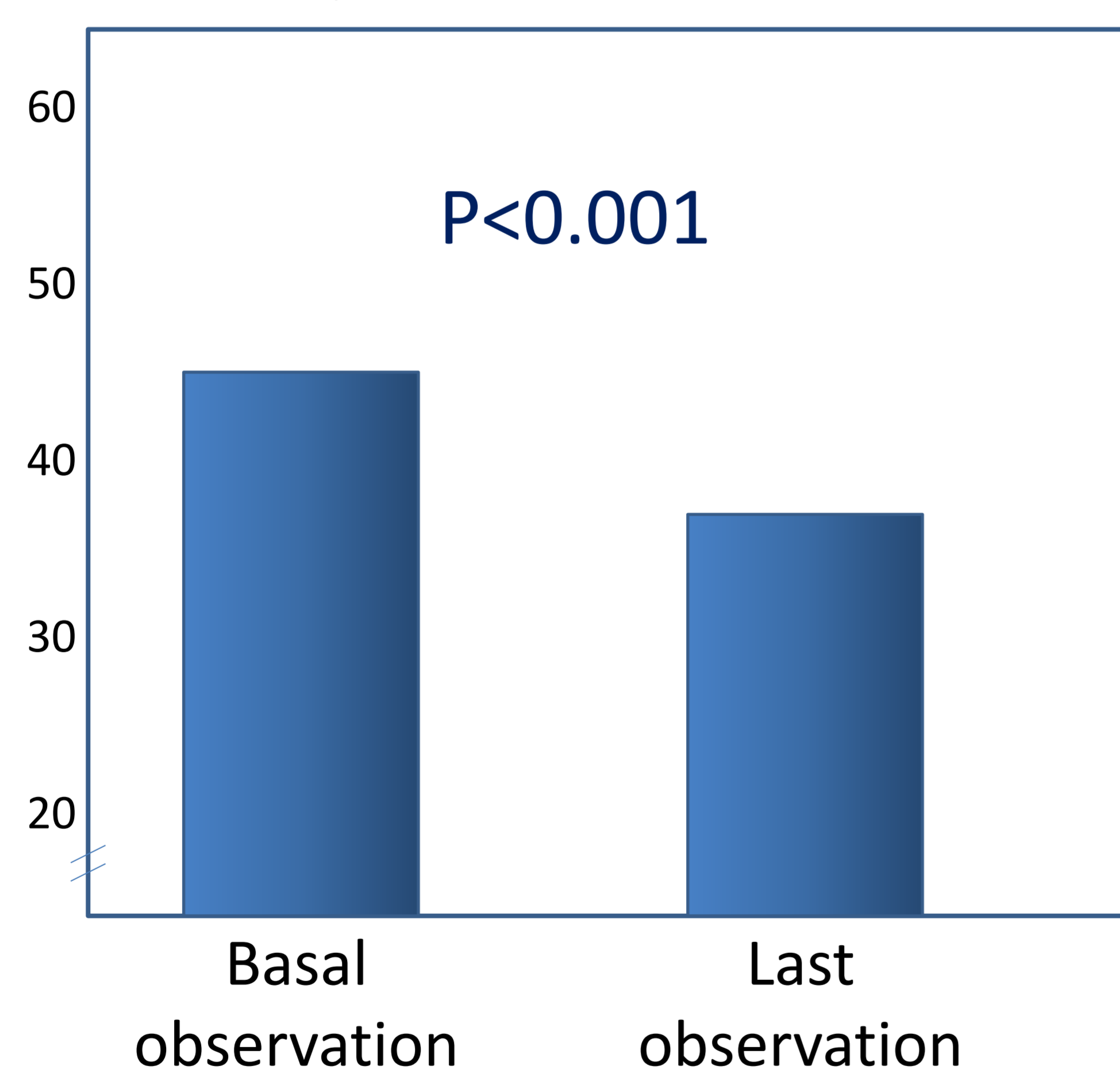
RESULTS

Among the eight SF₃₆ dimensions, perception of general health declined to an important extent over time [from (mean±SE) 46±1 to 38±2 (-17%)[Fig.1], P<0.001 significant at the Bonferroni's correction] whereas no significant change was observed for the remaining dimensions (P ranging from 0.06 to 0.99). On univariate analyses, longitudinal changes in general health over time were associated with age, background CV comorbidities, Hb, eGFR, and total number of drugs (P ranging from <0.02 to <0.001). In a multiple LMM [Fig.2], background CV comorbidities (β =- 8.8, P<0.001) and total number of drugs (beta= -1.4, P=0.01) maintained an inverse and independent relationship with the outcome variable whereas the remaining covariates did not. Due to the collinearity between eGFR and Hb both these variable lost their prediction power when simultaneously introduced into the same multivariate LMM. However eGFR was a direct predictor of general health perception (β =0.16, P=0.035) in a LMM excluding Hb, and viceversa Hb (β =1.6, P=0.01) predicted the same outcome in a LMM excluding eGFR indicating that low GFR and low Hb are in the same pathway impacting upon perception of General Health in CKD patients.

General Health decline

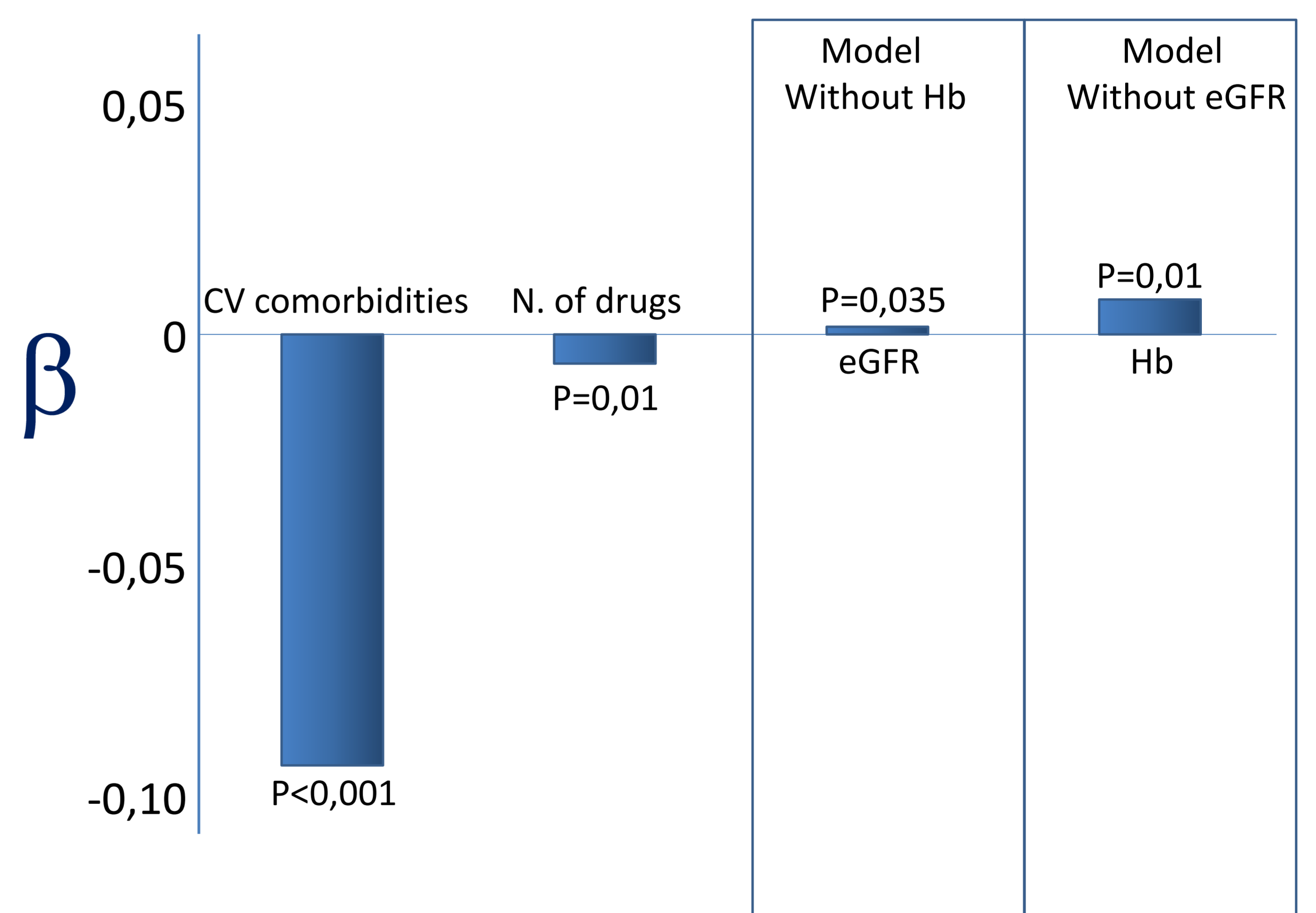
Fig.1

General Health Perception (%)



Linear Mixed Models

Fig.2



CONCLUSIONS

Measures of QoL dimensions spanning physical health, to energy, fatigue, emotional well-being, pain and social function remain almost stable over the course of CKD. However, the perception of general health show declining trend to an important extent. Such a decline is independently predicted by cardiovascular comorbidities and the drug therapy-burden and evolves in parallel with CKD progression and anemia worsening. Whether the decline in perception of general health can be modified by psycho-social interventions and/or by intervention aimed at attenuating CKD progression and the associated comorbidities remains to be tested in clinical trials.

