**ADEA Abstract Submission Template**

**Abstract Title:** Association of Geriatric Nutritional Risk Index with Adverse Outcomes in Elderly Persons with Diabetic Kidney Disease: A Multi-cohort Longitudinal Study

**Background & Aim:** Malnutrition is linked with adverse outcomes in persons with diabetic kidney disease (DKD). The Geriatric Nutritional Risk Index (GNRI), derived from height, weight, and serum albumin, is commonly used to assess the nutritional status of elderly people. This study evaluates the long-term prognostic impact of the GNRI on mortality and progression to end-stage kidney disease (ESRD) in elderly persons with DKD.

**Methods:** This retrospective study utilized two longitudinal cohorts: 1062 elderly people with DKD from the NHANEs database (2003–2018) and 386 biopsy-proven elderly persons with DKD from West China Hospital of Sichuan University (2010–2019). Cox regression, Kaplan-Meier, and Restricted cubic spline analyses assessed the association between GNRI scores and adverse outcomes. Time-dependent ROC curves evaluated prognostic accuracy.

**Results:** Individuals with higher GNRI values exhibited greater baseline estimated glomerular filtration rates(eGFR). Higher GNRI was positively correlated with eGFR (r = 0.199, p < 0.001) and inversely with pathological damage. After adjustment for confounders, each SD (per-SD) increase in baseline GNRI was associated with reduced mortality(Hazard ratio (HR) 0.94, 95% Confidence Interval (CI) 0.91–0.97, P < 0.001) and progression to ESRD (HR 0.97, 95% CI 0.91–0.94, p < 0.001). People in higher GNRI tertiles had lower risks of adverse outcomes. GNRI showed superior prognostic accuracy compared to BMI.

**Conclusion:** Our findings indicate that higher GNRI scores are inversely associated with adverse outcomes in elderly persons with DKD, underscoring the potential of GNRI as a valuable prognostic marker.