Health State Utility Values for Immunoglobulin A Nephropathy (IgAN)

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- IgAN is a rare kidney disorder that has an annual incidence of approximately 2.5 per 100,000 persons globally[1]

- A common feature of IgAN is persistent microscopic hematuria with or without recurrent hematuria
  - Patients may also have proteinuria, hypertension, and/or loin pain
  - Less frequently, they may experience edema and nephrotic syndrome (~5%) or acute kidney injury[2]

- IgAN may severely impact patients and lead to reduced kidney function and quality of life as the disease progresses[3]
  - In those who progress to kidney failure requiring renal replacement therapy, the rates of mortality are significantly increased[4,5]

- Utility values are often used to reflect the impact of disease on quality of life by measuring people's preferences for different health states
  - While IgAN has been shown to be associated with significant clinical burden to patients with reduced HRQOL, less is known about the utility values of the condition[6,7]

Objectives
  - To derive utility values for the spectrum of health states related to IgAN from the public perspective in the UK

HRQOL, health-related quality of life; IgAN, immunoglobulin A nephropathy.

1. McGrogan A, et al. *Nephrol Dial Transplant*. 2011;26(2):414-430; 2. Rajasekaran A, et al. *Am J Med Sci*. 2021;361(2):176-194;
3. Wyatt RJ, Julian BA. *N Engl J Med*. 2013;368(25):2402-2414; 4. Finkelstein FO, et al. *Nat Rev Nephrol*. 2012;8(12):718-724;
5. Zoccali C, et al. *NDT Plus*. 2010;3(3):213-224; 6. Canetta PA, et al. *Kidney Int*. 2019;95(5):1209-1224; 7. Libório AB, et al. *PLoS One*. 2012;7(5):e37763.

Study Design

- The study elicited utility values of health states related to IgAN from the UK general population using computer-assisted telephone interviews

Study Population

- Adults (ie, ≥18 years old) from the general UK public who were able to speak and read English and able and willing to provide informed consent were recruited through an online panel

Study Outcomes

- The primary outcome was utility values estimated using TTO

Analysis

- The TTO utilities were calculated based on the length of life in full health at the point of indifference and ranged from −1 (worse than death) to +1 (perfect health)

IgAN, immunoglobulin A nephropathy; TTO, time tradeoff.

Table 1. Patient characteristics

	Participants (N=200)
Age at survey date (years)	
Mean±SD	48.9±15.4
Median [Range]	50.0 [18.0, 78.0]
Female, n (%)	118 (59.0)
Race, n (%)	
White British	158 (79.0)
Asian/Asian British	14 (7.0)
Black/African/Caribbean/Black British	11 (5.5)
Mixed/Multiple ethnic groups	8 (4.0)
Other	9 (4.5)
Region of residence, n (%)	
England	161 (80.5)
Wales	17 (8.5)
Northern Ireland	15 (7.5)
Scotland	7 (3.5)

	Participants (N=200)
Employment status[a], n (%)	
Full-time	83 (41.5)
Retired	40 (20.0)
Part-time	26 (13.0)
Self-employed	17 (8.5)
Homemaker	11 (5.5)
Unemployed	10 (5.0)
Other	6 (3.0)
Student	5 (2.5)
Disabled	3 (1.5)

SD, standard deviation.
[a]Respondents could choose multiple choices.

Table 1. Patient characteristics (cont)

	Participants (N=200)
Highest education level, n (%)	
Primary school	0 (0.0)
Secondary school up to 16 years	34 (17.0)
Higher or secondary or further education (A-levels, BTEC, etc.)	46 (23.0)
College or university	83 (41.5)
Post-graduate degree	37 (18.5)
Comorbidities[a], n (%)	
None	73 (36.5)
Depression	46 (23.0)
Hypertension (high blood pressure)	29 (14.5)
Diabetes (Type 1 or 2)	24 (12.0)
Respiratory or lung disease (eg, asthma, COPD)	22 (11.0)
Obesity	13 (6.5)
Autoimmune diseases	13 (6.5)
Cancer	11 (5.5)
Kidney disease	8 (4.0)

	Participants (N=200)
Participant's current health (VAS)	
Mean±SD	0.72±0.19
Median [Range]	0.80 [0.0, 1.0]

BTEC, The Business and Technology Education Council; COPD, chronic obstructive pulmonary disease; SD, standard deviation; VAS, visual analogue scale.
[a]Respondents could choose multiple choices.

R E S U L T S

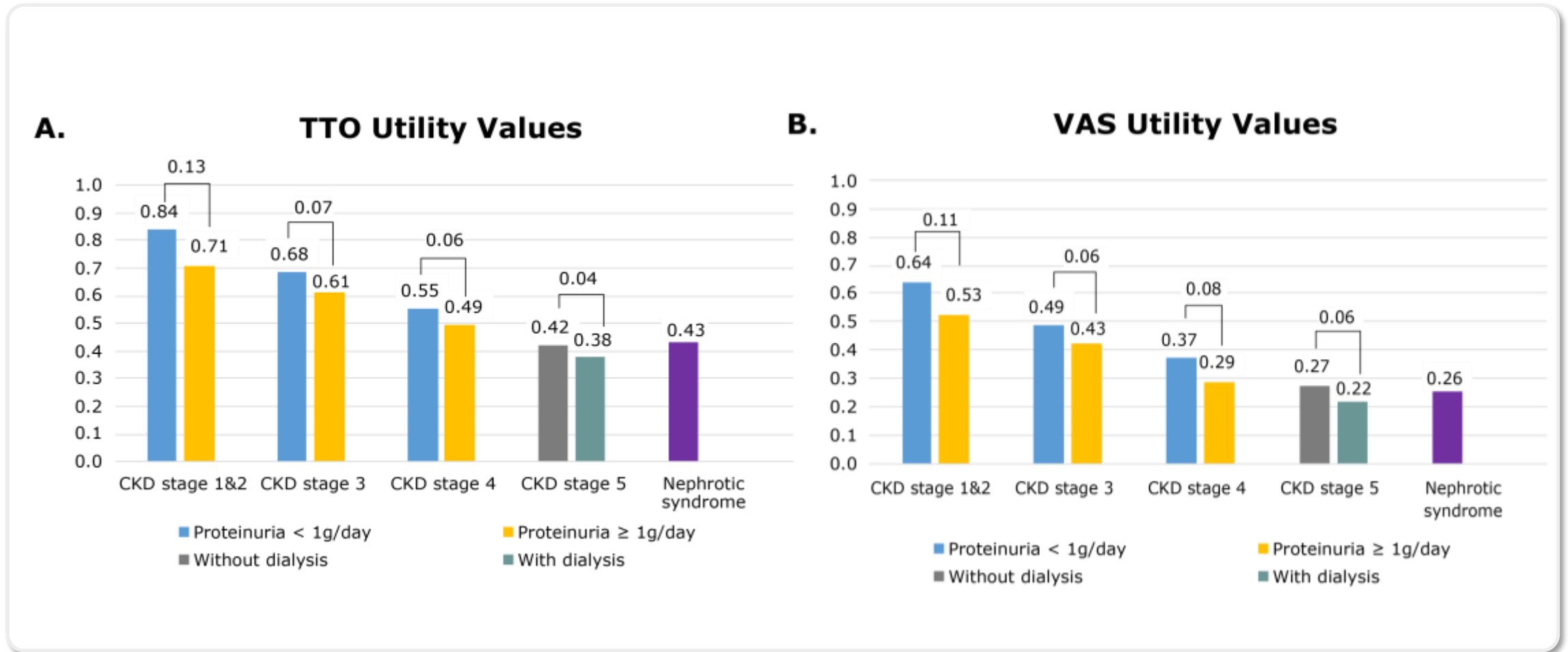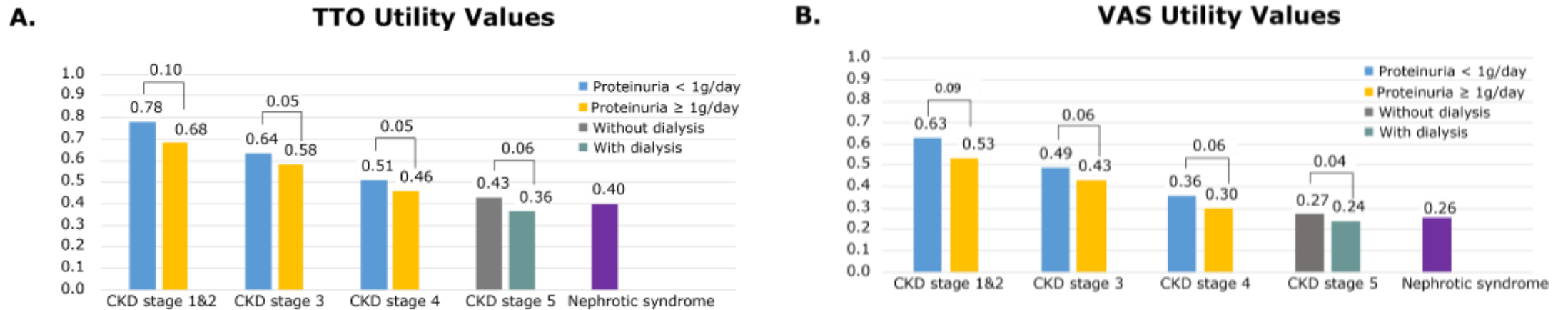# Figure 1. Utility values for primary analysis based on (A) TTO and (B) VAS responses (N=200)

CKD, chronic kidney disease; TTO, time tradeoff; VAS, visual analogue scale.

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Figure 2. Utility values for sensitivity analysis based on (A) TTO and (B) VAS responses (N=200)

CKD, chronic kidney disease; TTO, time tradeoff; VAS, visual analogue scale.

- To the best of our knowledge, this is the first utility study for IgAN. While existing studies have examined the utility values for health states related to CKD more generally, no publication we have been able to identify has considered utility values specifically for IgAN.

- The study accounted for a comprehensive list of symptoms and quality of life impairments associated with each IgAN health state in the utility assessment by including them in the vignette, allowing more accurate estimates of the utility values of IgAN compared to using generic instruments such as EQ-5D

- As the public perspective is commonly used in health technology assessments, the study elicited preferences of the health states related to IgAN from the UK general population to support the value assessment of IgAN treatments

CKD, chronic kidney disease; IgAN, immunoglobulin A nephropathy.

> IgAN is associated with reduced utility values compared to full health. CKD stage progression, proteinuria level, nephrotic syndrome, and dialysis are associated with further utility decrements.

> Treatments that reduce proteinuria and slow the rate of decline in kidney function have the potential to improve the HRQOL of patients with IgAN

HRQOL, health-related quality of life; IgAN, immunoglobulin A nephropathy.