

# Predictors of long term renal outcome in pregnant women with chronic kidney disease attending a combined regional renal obstetric service

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## Introduction

- Chronic Kidney Disease (CKD) in pregnancy is associated with increased risk of maternal and foetal adverse outcomes<sup>1</sup>.
- The long term impact of pregnancy on maternal renal function is largely unknown.
- The Royal College of Obstetricians and Gynaecologists (RCOG)<sup>2</sup> states:
  - Women with CKD should receive care from multidisciplinary renal obstetric services

## Objectives

- Assess long term follow up of women attending a tertiary renal-obstetric clinic
- Identify independent predictors of CKD progression

## Methods

- Data extracted for each woman, individual pregnancies identified
- Baseline and long term renal function recorded
- Forwards logistic regression performed using IBM SPSS

List of women attending the clinic over 6 years (2010 – 2015) obtained from informatics

Baseline demographics and current renal function data recorded from hospital electronic records

Duplicate values removed using Excel MATCH function

246 pregnancies in 210 women identified

Figure 1. Flowchart showing methods for data collection

## Results

### Baseline data

- Median age at pregnancy = 30.5 years (17 – 46)
- 88% (n=169) of pregnancies had both follow-up and pre-pregnancy (PP) data available
  - Median PP creatinine = 82µmol/L (37 – 644)
  - Median PP ACR = 6.2 mg/mmol (0.2 – 1029.6)

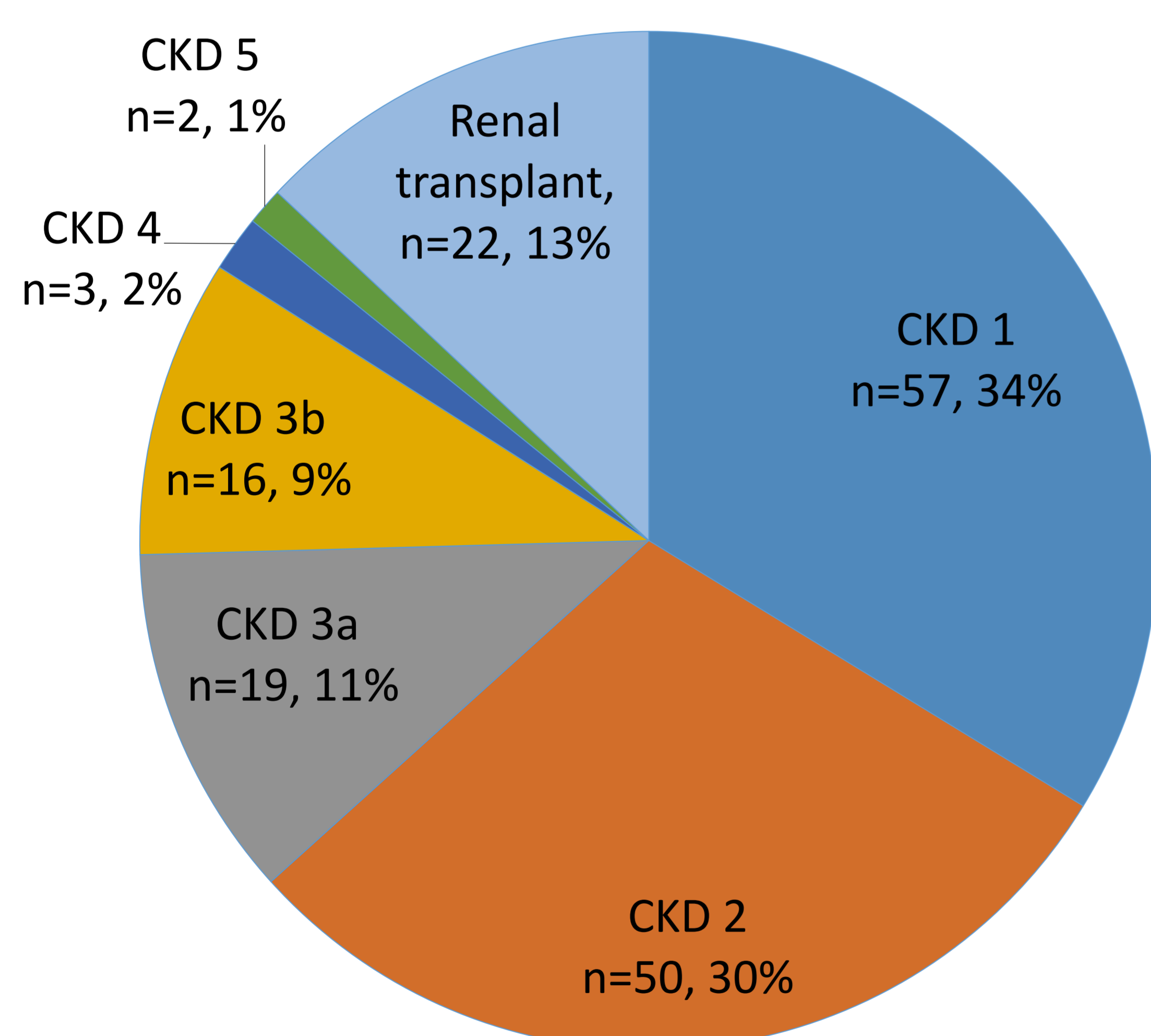


Figure 2. Baseline CKD stages (pre-pregnancy)

### Follow up data

- Median follow-up = 53 months (6 – 131)

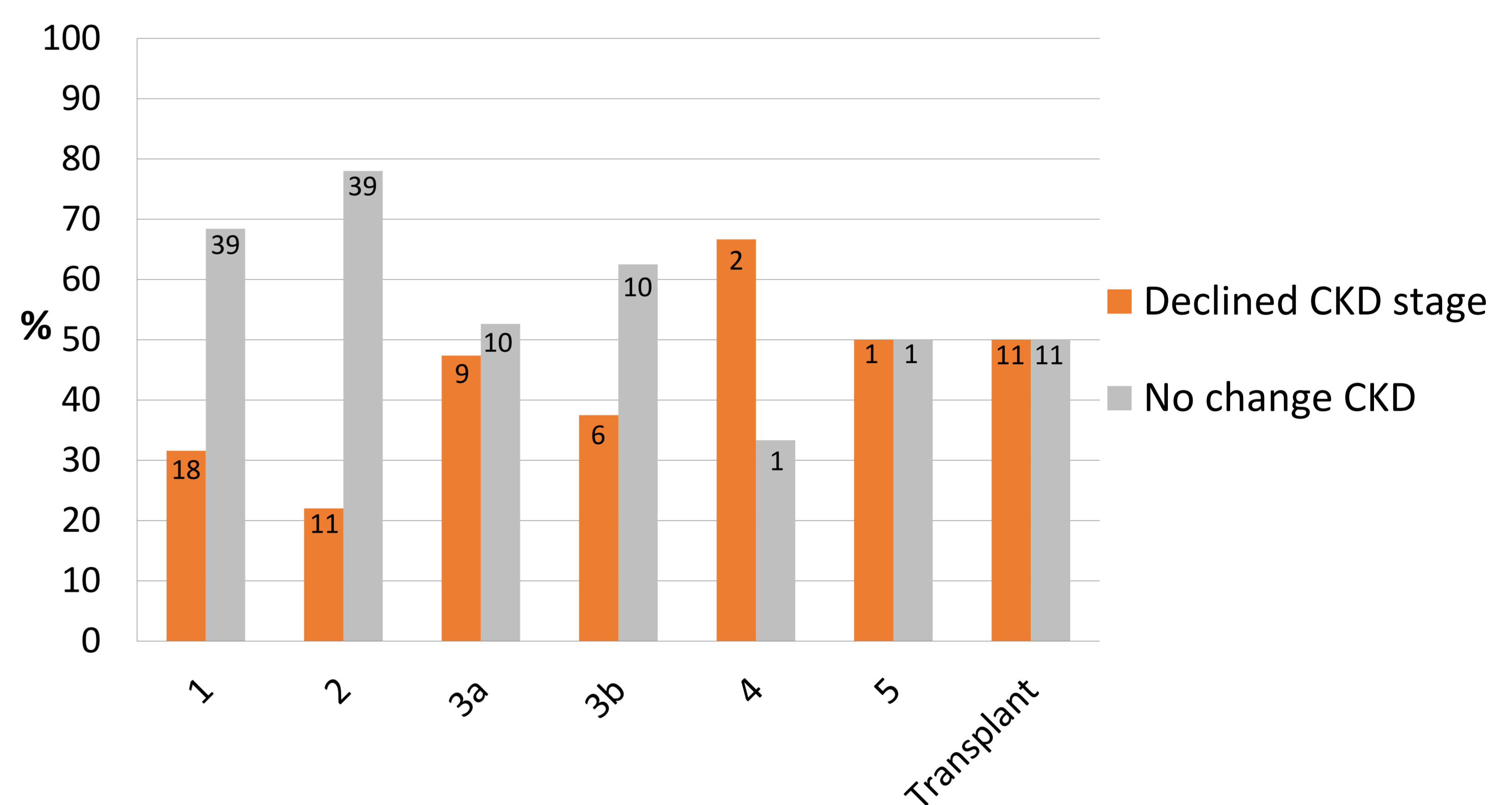


Figure 3. Post-pregnancy CKD stage shift per baseline CKD

Table 1. Multivariable analysis showing predictors of CKD stage shift

Predictor	OR [95% CI]	P value
PP creatinine	1.017 [1.002 – 1.032]	0.022
PP ACR	1.001 [0.997 – 1.004]	0.620
Age	0.972 [0.894 – 1.057]	0.511
Ethnicity	0.794 [0.336 – 1.877]	0.599

## Conclusions

- Women with worse baseline renal function have greater rates of CKD progression
- Demographics appear not to be predictors of progression
- Identifying high risk women would aid management strategies and may help inform guidelines
- Future prospective data is required to support these findings

## References

- Piccoli GB, Attini R, Vasario E, Conijn A, Biolcati M, D'Amico F, et al. Pregnancy and chronic kidney disease: a challenge in all CKD stages. Clin J Am Soc Nephrol. 2010;5(5):844-55.
- Davison JM, Nelson-Piercy C, Kehoe S, Baker P. Renal Disease in Pregnancy. London, United Kingdom: Royal College of Obstetricians and Gynaecologists; 2008.

