

## Study title

Association between area-level measures of marginalization and access to or readiness to pursue living donor kidney transplant

## Background

- Living donor kidney transplantation (LDKT) is the optimal treatment option for patients with end-stage kidney disease (ESKD), but is underutilized <sup>[1]</sup>
- In the United States, patients living in neighborhoods marked with higher socioeconomic status have increased access to transplant. <sup>[2]</sup>
- The Ontario Marginalization Index (OMI) provides area-level measures of marginalization
- Material deprivation a dimension of marginalization and is connected to poverty. It refers to the inability for individuals and communities to access and attain basic material needs. Indicators of material deprivation are income, quality of housing, educational attainment and family structure characteristics. <sup>[3]</sup>
- Area-level measures of marginalization provide insights for population health assessments, <sup>[4]</sup> including:
  - Assessing inequitable access to healthcare, specifically living donor kidney transplant
  - Assessing the potential role of material deprivation using reliable, non person level markers
- This study aims to analyze the association between material deprivation as measured by OMI and readiness to pursue LDKT, as well as having a potential donor identified and receiving an offer for living donation.

## Study objective(s) or question(s)

- Is there an association between living in a materially deprived area and readiness to pursue living donor transplant?
- Is there an association between living in a materially deprived area and the likelihood of having a potential donor identified?

## Study hypothesis

- Patients who live in materially deprived areas will be less ready for living donation
- Patients who live in materially deprived areas will not have a potential donor identified

## Study design

- Cross-sectional study using a convenience sample of patients recruited from the Greater Toronto Area.
- Patients completed questionnaires using a tablet-based electronic data capture system (DADOS, Techna., Toronto)

## Study population (time frame, inclusions/exclusions)

- Barriers patients, expanded and classical

- ETO patients
- Inclusion
  - Individuals who are 18 years or older but younger than 80 years
  - patients with advanced CKD (eGFR<20 mlm/min/1.76m2) referred for assessment for kidney transplant
- Exclusion
  - <18 years of age
  - severe acute illness
  - physician diagnosis of dementia
  - unable to read Grade 5 English
  - incomplete responses
  - unwilling/unable to provide consent
  - already received kidney transplant

## Exposure variable(s) and definition(s)

- Material Deprivation
  - Deprivation\_q\_da16
    - 1 to 5, least deprived to most deprived
  - Ordinal variable
  - Represents quintiles
    - 1 = lowest 20 percent

## Outcome variable(s) and definition(s)

- Living donation readiness
  - *ldkt\_readiness*
    - I am NOT considering taking actions in the next 6 months to pursue living donation
    - I am considering taking actions in the next 6 months to pursue living donation
    - I am preparing to take action in the next 30 days to pursue living donation
    - I am taking actions to pursue living donation
  - Binary Definition (*ldkt\_b*)
    - No readiness
      - No actions
    - Some Readiness
      - Planning or taking actions
  - Binary Definition – Alternative (*ldkt\_b\_alt*)
    - Else
      - No actions, considering, planning
    - Taking Actions
      - Taking actions
  - Categorical/Ordinal (*ldkt\_o*)

- Low readiness
    - No actions
  - Moderate readiness
    - Planning actions
  - High readiness
    - Taking actions
- Potential donor identified
  - Do you have at least one potential living donor at point?
    - Yes/No
  - *Pot\_Liv\_Donor*
    - Binary variable (yes, no)
- Donation offered
  - Has anyone offered to be a living donor for you?
    - Yes/No
  - *Living\_Donor*
    - Binary variable (yes, no)

## Confounders and other variable(s)

- Age (*age*)
- Gender (*sex*)
- Ethnicity (*ethnicity2*)
- Immigration (*Immigrant\_Status*)
- Marital status (*marital\_status2*)
- Charlson commodity (*charlson\_comorbidity\_index\_Cat*)

## Statistical analyses

- Pearson's chi square test
  - deprivation vs living donor readiness
  - deprivation vs potential donor identified
  - deprivation vs donation offered
- Logistic Regression