

## **DIETARY INTAKE AND ADHERENCE TO DIETARY RECOMMENDATIONS IN EUROPEAN DIALYSIS PATIENTS: THE DIET-HD STUDY**

### **PROJECT DESCRIPTION**

**BACKGROUND:** The multiple dietary restrictions recommended to dialysis patients may be difficult to achieve and, at the same time, may result in deficiencies of other nutrients. It is unknown if patients adhere to these recommendations or if such dietary restriction has any impact on patient outcomes.

**OBJECTIVE:** To evaluate the adherence to dietary recommendations and its clinical consequences in dialysis patients from the DIET-HD study.

**DATA SOURCE:** The Dietary Intake, Death and Hospitalization in Adults Treated with Hemodialysis (DIET-HD) Study is a multinational, prospective cohort study that aimed to evaluate the association between diet and clinical outcomes for adults treated with long-term hemodialysis (PMID: 25795691). Consecutive patients (n=9757) treated in selected clinics within a private dialysis provider network in Europe (France, Germany, Italy, Hungary, Poland, Portugal, Romania, Spain, Sweden, and Turkey) and South America (Argentina) were invited during 2016 to complete the Food Frequency Questionnaire (FFQ).

Baseline characteristics (sociodemographic, clinical, and dialysis related) within 1 month of enrolment were extracted from an administrative centralized patient database using data linkage. All clinical sites adhered to the same standard operating procedures in assessing and recording the variables of interest.

Dietary intake of 260 foods grouped in 32 sections was ascertained using the Global Allergy and Asthma European Network (GA<sup>2</sup>LEN) FFQ administered during a routine hemodialysis treatment. The GA<sup>2</sup>LEN FFQ was specifically designed to facilitate international comparisons in dietary intake using a single common and standardized instrument (PMID: 21427744). Collected outcomes during about three years of follow-up were death, cause-specific death and cardiovascular-related hospitalizations (PMID: 25795691).

### **STUDY PLAN**

**PART ONE: Adherence to guideline recommendations.** The aim is to evaluate whether the diet of dialysis patients adheres to current guideline recommendations. We will also compare dietary reports with the Diet and Lifestyle Recommendations Revision from the American Heart Association (AHA) Nutrition Committee for cardiovascular disease prevention in the general population.

**PART TWO: Agreement between adherence to dietary recommendations and clinical/biochemical profile.** The objective of this analysis is *a)* to evaluate whether dietary intake of single food groups or nutrients and/or adherence to dietary recommendations associates with their corresponding biochemical surrogates and *b)* to evaluate whether adherence to dietary recommendations results in a diet with overall good or poor quality.

**PART THREE: Clinical outcomes associated with adherence vs non-adherence to dietary recommendations.** We will explore the plausible association of dietary recommendations adherence with patient outcomes, using when appropriate competing risk Fine and Gray model to correct for competing events such as kidney transplantation or death due to other causes.

### **SIGNIFICANCE**

This project will give us novel and needed information regarding the current dietary status of dialysis patients in Europe. Quantifying the adherence to guideline recommendations is important to evaluate the need of more stringent patient and physician educational campaigns. Establishing links between dietary restrictions, clinical surrogates and outcomes is necessary to support or refute some of our current practices which often operate against what we believe is not a healthy diet. The DIET-HD cohort is unique, and currently the sole data source to allow understanding the diet of European patients on dialysis and the possible impact of foods on patient outcomes.

### **DETAILS RELATED TO THE FELLOWSHIP**

1. **Duration:** 12 months
2. **Location of the hosting centre:**  
Department of Medical Epidemiology and Biostatistics (MEB)  
Karolinska Institutet, Stockholm, Sweden
3. **Principal Investigator(s) of the project:**  
Juan Jesus Carrero, Prof.  
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4. **Co-supervisor of the project:**  
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4. **Start of the fellowship:** January 2020.
5. **Essential requirements to be involved in the project:**  
The ideal candidate would be someone with a PhD degree and experience in nutritional epidemiological analyses, including demonstrated ability to carry out statistical analyses by him/herself.