Long-term effects of Renal Replacement Therapy (RRT) among adult patients following discharge from the Intensive Care Unit (ICU): A Multicenter Prospective Cohort Study Protocol.

Mariana Martins Siqueira Santos[1,2,3], Regis Goulart Rosa[3,4,5], Cassiano Teixeira[3], Cristina Granja[1,6], Luís Filipe Azevedo[1,2]

1 CINTESIS - Center for Health Technology and Services Research, Portugal.
2 MEDCIDS - Department of Community Medicine, Information and Health Decision, Faculty of Medicine of Porto, Portugal
3 Brazilian Research in Intensive. Care Network (BRICNet), São Paulo, Brazil.
4 Intensive Care Unit, Hospital Moinhos de Vento (HMV), Porto Alegre, Brazil.
5 Research Projects Office, HMV, Porto Alegre, Brazil.
6 Anesthesiology Department, Centro Hospitalar Universitário São João, Porto, Portugal.

Introduction: Approximately 50% of patients admitted to the Intensive Care Unit (ICU) develop Acute Kidney Injury (AKI).[1] Patients who were submitted to RRT during hospitalization and those who suffered an AKI, whether or not submitted to RRT, have higher rates of mortality and worse renal function recovery and long-term quality of life.[2] Survivors of ICU are more susceptible to the development of chronic diseases, high mortality rates and worsening quality of life in subsequent months and years.[3-5] Few studies have analyzed quality of life after ICU discharge in Brazil and there is limited evidence about the role of RRT and its association with worse prognosis and long-term outcomes after ICU discharge among Brazilian patients.

Objectives: To assess long-term general effects of RRT among adult patients, with no history of chronic kidney disease (CKD), discharged from the ICU.

Design: Multicenter, prospective cohort study as part of a collaboration with the Quality of Life After ICU Study.

Setting: data collection occurred at ICUs of 10 tertiary hospitals in Brazil, from May 2014 to December 2018.

Figure 1 - Geographical distribution of participating centers.

Patients: 1616 adult ICU survivors with an ICU stay longer than 72 hours for medical and emergency surgical admissions or longer than 120 hours for elective surgical admissions.
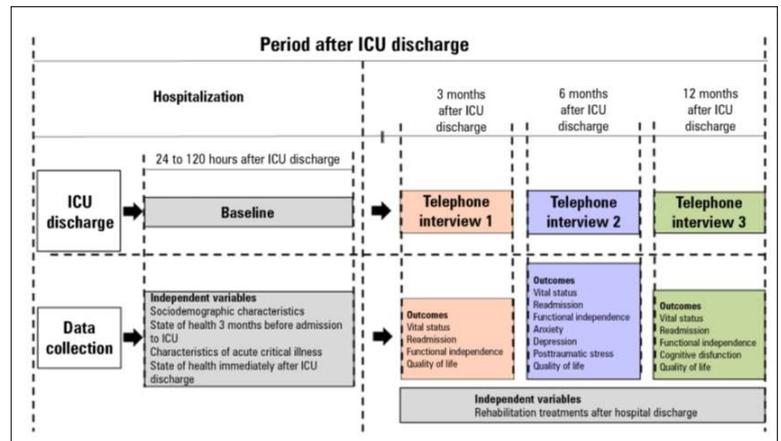

Figure 2 – Cohort follow up and variables collection.[6]

Statistical analysis: data available at the Quality of Life After ICU Study database will be used to assess long term outcomes of RRT and to define prediction and decision models for ICU patients with no previous CKD subject to RRT.

Expected results: to elucidated the long-term recovery of the renal function of critically ill patients, providing significant improvements to the quality of life, health recovery and patient autonomy, as well as provide enough robust evidence to support medical decisions on intensive care.

Final considerations: This is a cooperation initiative between researchers from Brazil and Portugal to promote the exchange of knowledge and improve medical research in both countries. The aims of this partnership, in addition to improving medical care for critically ill patients, is to encourage joint initiatives to advance medical science in both countries.

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Corresponding Author: Mariana M S Santos; marianamsssantos2@gmail.com.