Patient-Centered Outcomes Research of Chronic Kidney Disease

Laura Byham-Gray
Professor, Nutritional Sciences

CURRENT RESEARCH

Developing a predictive energy equation to prevent malnutrition and metabolic abnormalities in patients with CKD

Only one-half of patients diagnosed with end-stage chronic kidney disease (CKD) in the U.S. survive more than three years after the initiation of renal replacement therapy like dialysis. One of the causes for this high mortality rate is protein-energy malnutrition, now termed protein-energy wasting (PEW), resulting from a myriad of factors related to the medical treatment and metabolic sequellae of the disease. Dr. Laura Byham-Gray, Professor of Nutritional Sciences at Rutgers University and registered dietitian and nutritionist with over 15 years of clinical experience, studies PEW and measures the energy expenditure (EE) of adults in hemodialysis to help patients maintain a stable nutritional status. Developing a predictive energy equation and validating it with rigorous research, Dr. Byham-Gray hopes to gain a deeper understanding of the disease management process, prevent malnutrition and metabolic abnormalities that arise from it, and improve treatments across the spectrum of chronic kidney disease.

In order to protect both the kidney and the nutritional health of patients diagnosed with CKD, Dr. Byham-Gray collaborates with interdisciplinary teams of nephrologists, nurses, physical therapists and nutritionists to examine PEW from the patient's perspective so that her research agenda will make a significant contribution on what matters most for patients, such as living longer or living better. Some of the factors she looks into include total energy expenditure (TEE) and resting energy expenditure (REE) as measured by indirect calorimetry with the intent of precisely determining the amount of calories needed for rest as well as during routine physical activity and structured exercise to prevent compromise...

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AFFILIATION

Rutgers University

EDUCATION

- Ph.D. in Nutrition 2004,Steinhardt School of Education, New York University

AWARDS

- Presidential Citation for Outstanding Achievement, 11/2010
- Excellence in Teaching Award, 5/2010
- Joel D. Kopple Award, 4/2010
- Susan C. Knapp Excellence in Education Award, 4/2009
- Outstanding Service Award, 10/2007

RESEARCH AREAS

Life Science, Metabolic / Diabetes

FUNDING REQUEST

Because Dr. Byham-Gray's research is in clinical settings, there are significant costs associated with personnel and resources (phlebotomy, lab analyses) as well as research equipment to be purchased or maintained. Your contributions will therefore help fund the $500K/year required to keep the research progressing. Help strengthen the recovery process for patients with kidney diseases; fund Dr. Laura Byham-Gray.