

Impact of malnutrition on health-related quality of life in dialysis patients: a prospective study.

Dr. Daniela Viramontes Horner¹, Fiona Willingham^{1,2}, Dr. Zoe Pittman², Dr. Nicholas Selby^{1,2}, Prof. Maarten Taal^{1,2}

¹University of Nottingham, Derby, United Kingdom, ²Royal Derby Hospital, Derby, United Kingdom

Introduction: Health-related quality of life (HRQoL) is severely impaired in dialysis patients compared to the general population. Previous studies have shown that malnutrition, a frequent complication and independent risk factor for mortality in the dialysis population, is associated with poor HRQoL. However, there is no published evidence regarding the impact of malnutrition on change in HRQoL over time. We sought to determine the most important predictors of poor HRQoL as well as the determinants of change in HRQoL over time in dialysis patients, with a particular focus on malnutrition.

Methods: We enrolled 119 haemodialysis and 31 peritoneal dialysis patients in a 1-year single-centre prospective observational study. HRQoL was assessed using the physical and mental component scores (PCS and MCS, respectively) from the 36-Item Short Form Health Survey and the health state and visual analogue scores from the European Quality of Life 5-Dimensions (EQ5D) questionnaire. The 7-point scale Subjective Global Assessment (SGA) was performed to evaluate nutritional status. Energy, protein and fat intake, biochemical variables, anthropometric measurements and handgrip strength (HGS) were also measured. All study assessments were performed at baseline, 6 and 12 months.

Results: Mean age was 64±14 years. Malnutrition (as determined by 7-point SGA) was present in 37% of the population. Patients with malnutrition and diabetes had significantly lower MCS, PCS and EQ5D scores compared to well-nourished and non-diabetic patients, respectively. At baseline, chronological age, serum albumin, energy and protein intake, and HGS correlated positively with PCS and EQ5D health state score. Multivariable analysis at baseline identified malnutrition as the strongest independent predictor of decreased HRQoL, after adjusting for confounders (Table 1). Patients who stayed or became malnourished during one year showed a significant decrease in MCS, PCS and EQ5D health state score at 12 months compared to baseline. This same group of patients had significantly lower MCS, PCS and EQ5D scores at baseline and 12 months compared to those who stayed or became well-nourished during one year. Prevalent/development of malnutrition was independently and significantly associated with the 1-year decrease in MCS and EQ5D health state score. In addition, a decrease in serum total protein and dietary protein intake (markers of malnutrition) were identified as independent determinants of 1-year decrease in MCS, PCS and EQ5D health state score.

Conclusion: We observed in this prospective observational study that presence of malnutrition was the most important and strongest independent predictor of decreased HRQoL in this dialysis population. Furthermore, prevalence/development of malnutrition and a decrease in markers of nutritional status were independently associated with a decrease in some HRQoL scores over 1 year. These findings strengthen the importance of undertaking screening to identify malnutrition, and providing specialised, individualised nutritional advice to all dialysis patients in order to prevent and/or improve nutritional status. Future studies with larger sample sizes, longer follow-up, and which include evaluation of barriers to effective nutritional interventions are needed to evaluate the impact of nutritional interventions on HRQoL and other long-term outcomes.