Aim

To analyze, based on residual kidney function, the influence of time of initiation of dialysis on morbidity and mortality in chronic renal failure sufferers during the first years of dialysis; and to assess the influence of initiation of dialysis on patients' quality of life.

Conclusions and results

Early initiation appears to have worse results in hemodialysis than in peritoneal dialysis, with gender and the presence or absence of diabetes being the variables that most influence outcomes. Patients' initial health status and predialysis care are shown to be more relevant than time of initiation of dialysis, highlighting the importance of a programmed initiation of renal replacement therapy (RRT).

A bibliographic search retrieved 1463 studies. Of these, 10 met the selection criteria and were included. No randomized clinical trial (RCT) was retrieved. Studies included had a cohort design. As a patient classification criterion, most studies used a kidney function value of 7 to 10 ml/min, 2 studies used a lower value (5 ml/min), and 2 studies compared different kidney function ranges (<5, 5-10 and >10). Whereas studies that used the highest cutoff points (GFR>10) along with studies that compared different kidney function ranges (<5, 5-10, >10) favored delaying initiation of treatment, studies that used lower values (7-8) coincided in supporting early initiation of therapy. The percentage of patients who initiated unprogrammed treatment rose as high as 57%, which influenced outcomes (mortality, nutritional status, and hospital admission or stay). Only 1 study assessed the influence of date of initiation of dialysis treatment on patients' quality of life. During the first 6 months of treatment, an improvement in quality of life was observed in both groups (ie, early- and late-initiation), with the early-initiation group recording better scores, though these differences disappeared after 1 year. Of a possible 10 points, study quality registered a median score of 5.9 and a mean score of 5.5.

Recommendations

Studies of good methodological quality need to ascertain in which population subgroups early initiation of treatment would be beneficial, and studies need to rigorously assess the quality of life of patients who initiate RRT early.

Methods

We systematically reviewed the scientific literature published until February 2009, targeting: (a) specialized systematic-review databases, eg, HTA (Health Technology Assessment), DARE (Database of Abstracts of Reviews of Effectiveness), NHS EED (National Health Service Economic Evaluation Database), and Cochrane Library Plus; and, (b) general databases, such as MEDLINE, EMBASE and ISI Web of Knowledge (Institute for Scientific Information). The databases of the US National Institutes of Health (Clinicaltrials.gov), the UK National Health Service (National Research Register), and other international registries, eg, CCT (Current Control Trials) and CenterWatch, were also consulted. Two independent reviewers examined and selected the papers separately in accordance with pre-established inclusion and exclusion criteria. This information was summarized in evidence tables. Both researchers assessed study quality by using a specially adapted scale.

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