

P274

P274 -A novel personalised nurse-led pathway improves clinical outcomes and reduces costs for patients commencing haemodialysis: a single centre quality improvement pilot

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Introduction

Commencing haemodialysis (HD) is a time of significant physical and psychological distress, with a high incidence of early mortality and hospitalization. Despite good pre-dialysis care, and particularly following emergency presentation, many patients experience a sub-optimal start to haemodialysis. Local audit confirmed these themes in our unit, and they are illustrated in large registry datasets.

We have developed, tested and evaluated the impact of a novel, personalized nurse-led care pathway for patients commencing HD on mortality at 90 days, as well as a range of clinical outcomes including psychological distress. Furthermore, a health economic analysis has been undertaken to study potential savings arising from the implementation of this pathway.

Methods

Sequential PDSA cycles were used to develop an electronic patient pathway in collaboration with service users. In parallel, a data dashboard was created to facilitate real-time data collection and display in a dashboard format.

This novel pathway (fig. 1) was prospectively applied to all incident patients commencing chronic HD from 1st August 2016 in our unit. A range of process and outcome measures was collected, and mortality was assessed at 90 days from HD initiation.

Patients who commenced chronic HD at our unit from July 2015-July 2016 were analysed, and provided a retrospective control group.

Patient distress was quantified using the Distress Thermometer (Renal), and patient experience was captured by questionnaire.

NHS reference costs (2016-17) were applied to length of hospital stay, admissions to Nephrology, number of Emergency Department visits, and length of stay in HDU/ITU. The differences between the groups were assessed with non-parametric Mann Whitney U tests, as the data were found to be skewed.

Results

The historic cohort included 78 patients with a mean age of 58.4y, 62% male and 45% diabetic. The pathway cohort included 185 patients with a mean age of 60.1y, 59% male and 45% diabetic. They commenced HD at a mean eGFR of 8.6 ml/min and 7.9ml/min respectively.

There were significant clinical and cost improvements associated with the novel pathway (table 1) at 90 day follow up. The proportion of patients with a plan for home dialysis increased from 8.5% to 20%, length of

stay was reduced from 12.2 to 9.8 days, unadjusted mortality fell from 5.1% to 1.6% and there was a cost saving of £6227 per patient.

Patient distress score reduced from 4.3 (week 2 after pathway initiation) to 2.4 (week 8). Qualitative analysis of patient and staff feedback was strongly positive.

Discussion

This single centre pilot study demonstrates the feasibility of introducing a novel nurse-led pathway of care for patients commencing HD. The implementation of this pathway has demonstrated significant reductions in early patient mortality and improvement in hospitalization rate. There are cost savings associated with reduced resource utilization. Furthermore, patient experience and distress have been favourably influenced.

If these findings could be tested and replicated nationally, there would be the potential for large scale clinical and financial gains.