The impact of remote management with patient's receiving Automated Peritoneal Dialysis (APD) on frequency and duration of routine Nephrology Outpatient attendance

Wilson K[1], Meagher M[1], Knowles M[2]

1 Baxter Healthcare Ltd, Compton UK

2 Loyalty Chain

Abstract

Patients undertaking their dialysis at home with Automated Peritoneal Dialysis (APD) have regular contact with Healthcare Professionals (HCP's) through attendance at routine Nephrology Outpatient Clinics.

Review of patients dialysis treatment data is an important part of patient management. Traditionally patients present for clinic attendance and their paper dialysis records are reviewed during the consultation.

Following the introduction of remote patient management technology (Sharesource), HCP's are able to see patient's dialysis treatment data more regularly and in advance of a scheduled clinic visit. Following its introduction, patients reported a reduction in both the frequency and duration of clinic visits.

Despite this reduction, patients felt completely confident undertaking their dialysis at home.

Background

Patients who are being treated with APD at home have responsibility to manage their own therapy. Contact with Healthcare Professionals is predominantly at Outpatient Nephrology Clinic Visits, these interactions are supplemented by telephone calls and home visits.

During routine clinic visits the patient's dialysis treatment data is reviewed together with their overall health status. Traditionally patients present at their outpatient appointment with their paper dialysis treatment records which are reviewed during clinic by Healthcare Professionals.

This study was commissioned to understand the impact of remote patient management with a cloud based IT system (Sharesource) on patient care and whether the introduction of this technology could impact the frequency and duration of routine clinic appointments.

With Sharesource, data is sent directly from the patient's APD device and is available for nurses to view on demand via a cloud based web platform. This means assessment of a patient's dialysis records is not limited to reviewing paper records during a routine outpatient visit but data can be more regularly reviewed and assessed in preparation for a clinic visit. In addition, Healthcare Professionals can act on information more regularly and between clinic visits.

The cost of a Nephrology Outpatient Clinic visit is £150. The NHS carried out over 800,000 nephrology outpatient appointments, generating a total cost of £123 million for the financial year[1].

Objectives

The aim of this study was to compare the frequency and duration of routine Nephrology Outpatient clinic visits for APD patients prior to and after the introduction of remote patient management with a cloud based IT system (Sharesource).

Methods

The study consisted of telephone interviews with prevalent APD patients. The first interview was conducted whilst the patient was using existing APD technology. The second follow up telephone interview was with the same cohort of patients when they had switched and were established on their new device that offered remote management technology.

During the interview patients were asked;

- How often they attended clinic for routine monitoring of their dialysis
- Whether following the introduction of remote management there was a difference in how often they attended clinic
- How long they generally spent at their clinic appointment
- Overall how confident and safe do they feel undertaking their dialysis at home

Results

13 patients were interviewed from a total of 5 Renal Units.

On average patients had been on APD for a mean of 25 months when interviewed for the first time prior to the introduction of remote management technology and for 33.5 months at the time of the second interview after the introduction of remote management technology.

Figures 1 shows patient reported frequency of clinic attendance prior to and after the introduction of remote management technology

Figure 1: Frequency of routine clinic visits prior to the introduction of remote patient management

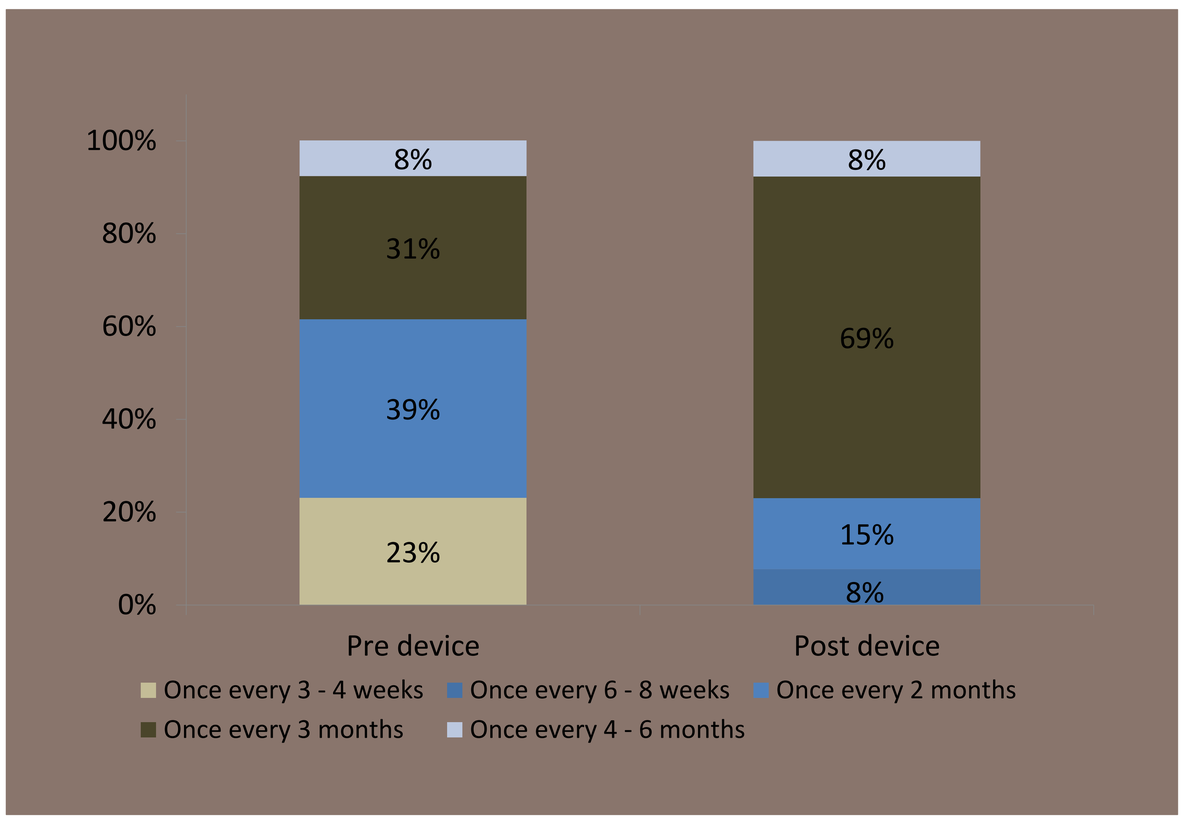
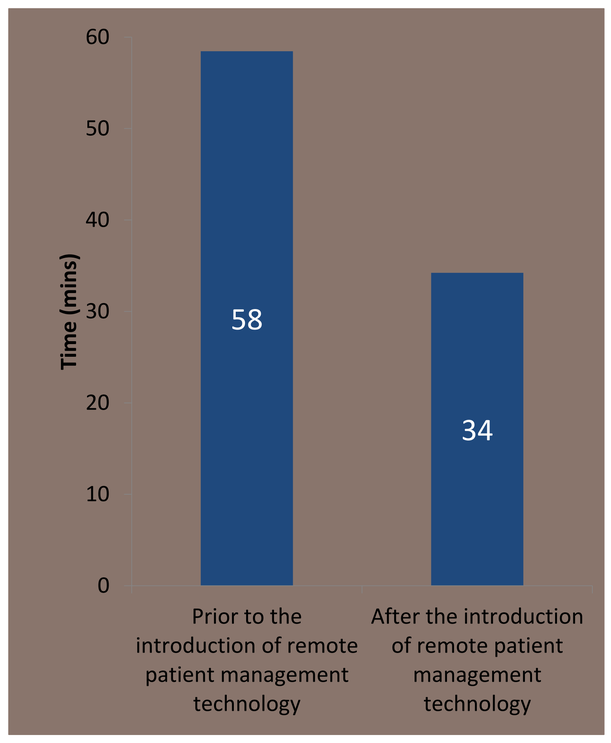


Table 1: Patient assessment of changes in clinic attendance

Change in clinic attendance	Number of patients (%)
I attend clinic more often	0
Attendance has stayed about the same	8 (73%)
I attend clinic less often	3 (27%)

Following the introduction of remote management technology patients were asked how safe and confident they felt undertaking their dialysis at home where 1=not at all confident to 10=completely confident the mean rating was 9.8.

Figure 3: Duration of clinic visits as reported by patients



Conclusions

Interaction with Healthcare Professionals is an integral part of supporting patient's managing their dialysis at home.

The National Programme of Care and Clinical Reference Groups Internal Medicine A06[2], states that outpatient care and monitoring should meet the Renal Association guidelines and include regular review of markers of technique success and survival, regular clinical and nursing review.

Prior to the introduction of Remote Management Technology the majority of patients attended the Renal Unit for routine Nephrology Outpatient clinics once every 2 months and with the mean duration of the visit being 58 minutes. Following the introduction of Remote Management Technology the majority of patient's reported attending every 3 months and the average duration of the clinic visit was 34 minutes.

This data suggests that the availability of patient's dialysis treatment data on demand may reduce the frequency of routine clinic visits and appears to reduce the duration of visits. This may mean Healthcare Professionals are able to more proactively plan for a patient's clinic visit and that data is more readily available at the start of clinic reducing the amount of time taken to review paper records and compile reports during the time the patient is at the clinic. It is important to note that patients feel confident and safe undertaking their dialysis at home despite a reduction in frequency and duration of clinic visits.

Reducing the duration of clinic visits via a reduction in administration may have a number of advantages, such as reduction in time burden for patients attending clinic.

More efficient management of clinic time may prevent appointments over running and positively impact both the patients experience and efficient running of the outpatient services.

The need for Renal Replacement Therapy is likely to continue to grow at 4% per annum[3] meaning additional patients will require Nephrology Outpatient Services. The data from this study may indicate that remote management technology may help improve efficiencies for the NHS and enable more patients to be treated within current budgets and resources.

References

1. Department of Health, 2016, Reference Cost Collection: National Schedule of Reference Costs 2015-16: NHS Trust and NHS Foundation Trusts, Outpatient Attendances Data
2. The National Programme of Care and Clinical Reference Groups Internal Medicine A06, Renal Services Peritoneal Dialysis To Treat Established Renal Failures
3. MacNeil et al (2016) UK Renal Registry 18th Annual Report: Chapter 2 UK Renal Replacement Therapy Prevalence in 2014: National and Centre-specific Analysis Nephron 132 (suppl 1) 41-68

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