An Evaluation of a Pharmacist-Led Diabetes Clinic at a GP Practice in Cannock

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Introduction

Type 2 diabetes mellitus (T2DM) is a metabolic disorder that affects 3.7million patients in the UK (United Kingdom) (Diabetes UK, 2017), with the cost of drug treatment exceeding £1 billion in 2017/18 (NHS Digital, 2018). NICE (2017) predicts the prevalence to increase to above 5 million patients by 2025. In order to manage this burden, pharmacist clinicians are being employed by GP surgeries to alleviate this pressure.

Multiple studies have found the inclusion of a pharmacist in diabetes care improves most of the relevant clinical outcomes. All studies identified a decrease glycated haemoglobin (HbA1c) post intervention. Other studies have found improvements in blood pressure (BP) (Tan et el (2011); Korcegez et al (2017); Cioffi et al (2004); Alfayez et al (2017)), lipid profile (Cioffi et al (2004); Irons et al (2008)) and microalbuminuria (Cioffi et al, 2004).

The literature highlights many other factors that influence diabetes care, including adherence and integration of care from all healthcare professionals (HCP). Of the little research that has been done, the influence of a pharmacist appears to increase adherence to medicines and the inclusion of a pharmacist in a multidisciplinary team (MDT) has a positive outcome on clinical parameters.

The success of pharmacist clinicians in GP practices in the UK has been demonstrated by Langran et al (2017) and Auijla (2018). Langran et al (2017) found an increase in the number of patients receiving all of the NICE key care processes for diabetes, from 46% to 58%. Auijla (2018) showed a reduction in HbA1c of an average of 1.5%. Both studies found improvements to diminish after the studies finished.

This study was conducted in the Colliery Practice in Cannock Chase CCG, which according to the Quality and Outworks Framework (2017), has an incidence of T2DM of 7.36%, 0.56% more than the national average. The practice employs a pharmacist clinician who has run a T2DM clinic since June 2017.

Methods

Study Design
The study conducted was a service evaluation, based on a 'before-and-after study' design. Baseline clinical parameters (HbA1c, BP and Body Mass Index (BMI)) were identified from before the patient was referred to the pharmacists care, and then compared to the same parameters after any interventions were made.

Sampling
Inclusion criteria: registered at the Colliery Practice, over 18 years old, either gender, diagnosed with T2DM and had attended diabetes clinic appointments with the pharmacist at least twice over the study period. Patients were then excluded if they did not attend their appointment, had deceased since their appointments, or had their medical records blocked.

Data Collection
Patient data was collected from the EMIS system. Data was collected by reviewing clinic lists between 28th June 2017 and 25th October 2018. Baseline and any follow-up results for HbA1c, BMI, BP, triglycerides, and any relevant clinic notes were noted.

Data Analysis
Median averages for patient age, baseline, final and change in HbA1c and BMI were calculated.

Results

A total of 26 diabetic patients were identified, 13 males and 13 females. None the patients had a full data set. Of the patients that had baseline and final results for the clinical parameters, 66% of patients had a reduction in HbA1c, 50% had a reduction in BMI and 47% had a reduction in BP.

The drug therapies each patient was prescribed are outlined in Figure 1. Urea and electrolytes (U&E's) were requested for every patient before initiation of metformin therapy. All patients on metformin were given appropriate titration advice to reduce the incidence of gastrointestinal side effects, and patients that could not tolerate the side effects were swapped onto modified release preparations in line with NICE NG28 (2017).

All patients were given personalised lifestyle advice, and the pharmacist referred 9 patients to diabetes educational services.

Discussion

Overall, the pharmacist had a positive impact on the management of T2DM. 30.8% of patients achieved a HbA1c of ≤6.5%, which NICE defines as the target value for glycaemic control, showing the interventions from the pharmacists were working appropriately.

The results were not as positive for BP and BMI, however as all interventions by the pharmacist were consistent with NICE guidance (NG28, 2017), they could be due to reduced compliance from the patients for the advised regimes. Modification of metformin therapy shows the pharmacist was helping to increase patients adherence to medicines, however it does not prove whether patients were compliant with their regimes.

The multidisciplinary approach in the management of T2DM has been well demonstrated at the Colliery Practice, as patients were being consistently referred to other HCP, which ensured they were being continuously monitored and getting optimal treatment.

Strengths and Limitations
The involvement of pharmacist clinicians in the management of T2DM has not been well researched, therefore studies such as this one are essential to be able to progress the profession. Completing a service evaluation in the infancy of the clinic means any recommendations can be instigated sooner and therefore benefit patients quicker.

Time constraints meant only the data for patients who had been seen on multiple occasions was collected. It would have been beneficial to collect data from patients who had only attended one appointment, so as to obtain data on prescribing patterns. The data was inconsistently coded which made data collection time consuming and potentially prone to error. Gaps in the data set (only baseline or final results) resulted in a smaller population size.

Conclusion

Overall, this study supports the findings found in previous literature, that pharmacists do have a positive impact on patients' diabetic parameters. The study found there to be an improvement in clinical parameters of the patients who had attended appointments more than once, and the treatment was in line with guidance (NG28, 2017) and was suitable for every patient.

The 'General Practice Forward View' strategy (NHS England, 2017), acknowledged how pharmacists remained one of the 'most underutilised professional resources' in the NHS, and so studies are needed to help prove the value of pharmacists within GP practices. In the UK there is very little research done to assess the impact a pharmacist clinician can have on diabetes care, so this study contributes to the existing literature.

Aim
The aim of this study is to evaluate whether multiple interventions from a pharmacist clinician have been beneficial to patients' diabetic parameters.

Objectives
- To identify a range of patients who have been given interventions by a pharmacist clinician at the clinic in Cannock.
- To determine whether clinical parameters such as HbA1c, BMI and BP have improved after multiple interventions from the pharmacist.
- To identify whether the treatment regimens prescribed by the pharmacist are in line with guidance, and optimal for the patient.
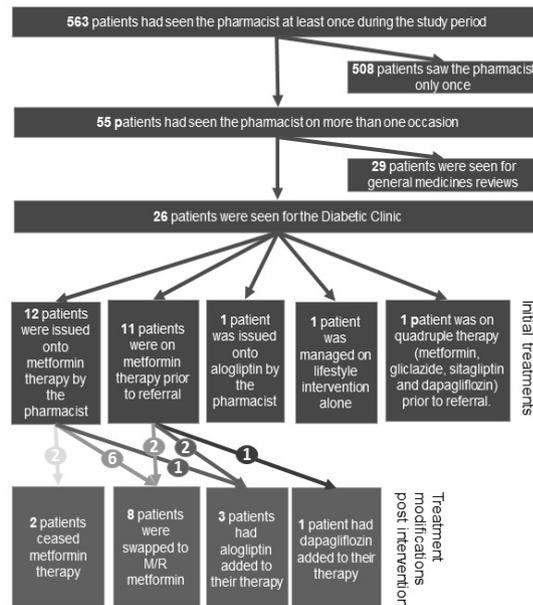

Figure 1: Flow chart showing the treatment progressions of all patients included in the study.

Recommendations
- Data input into the EMIS system should be more consistent and data should be coded accordingly. This will ensure future service evaluations will be less time consuming.
- Completing annual service evaluations will be beneficial, as the longer the service runs for, the more data there will be available to evaluate. The pharmacist will therefore be able to adapt their practice to fit with the changing needs of the patient.
- There may also be a benefit to conducting a study, whereby the perception of the pharmacist clinician is explored. Having an understanding of how patients perceive the pharmacist, will enable the pharmacist to address any concerns, and optimise the treatment provided.

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