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Brief report

Preconception care of women attending adult general diabetes clinics—Are we doing enough?☆

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Abstract

Background: The presence of diabetes in pregnancy can result in substantial morbidity to both mother and baby if management is sub-optimal.
Aims: To assess the process of standards of preconception care (against the National Service Framework standards) of women attending the adult general diabetes clinics in a district general hospital.
Methods: Retrospective review of case notes of women aged 18–40 years attending the general diabetes clinics for annual review, over a period of 6 months.
Results: Seventy sets of notes were reviewed. The mean age of the patients was 32 years. Fifty-six patients had type-1 diabetes and 14 patients had type-2 diabetes. Mean duration of diabetes was 13 years. Eighty-six percent of the patients had blood pressure recordings documented. Mean blood pressure was 124/74 mmHg. Mean HbA1c was 9.1%. Documented evidence of home blood glucose monitoring was seen in 66% of the patients. Preconception counselling/contraception were discussed in 17 patients (25%). Twenty-nine patients (41%) were on potentially teratogenic medications. Alcohol and smoking history was not documented in 91% and 61% of the patients, respectively.
Conclusions: This retrospective assessment highlights that reproductive issues in an at risk population of women with diabetes are not included in routine management of diabetes care in outpatient clinics.

Keywords: Diabetes mellitus; Pregnancy; Preconception; Contraception

1. Introduction

Following the publication of the National Service Framework (standard 9) for diabetes mellitus (DM) in the UK [1], we performed a retrospective evaluation of the consistency of preconception care of women of child-bearing age at the general adult DM clinics in our district general hospital with a catchment area population of approximately 250,000. In spite of the widely accepted knowledge that elevated blood glucose levels in early pregnancy are associated with a significantly increased risk of birth defects in infants of women with established DM, the majority of women with DM do not plan their pregnancies and enter pregnancy with inadequate blood glucose control [2]. Women with pre-existing DM in pregnancy are at increased risk of fetal loss, fetal congenital anomaly, abnormal fetal growth and obstetric complications are more likely [3].

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The magnitudes of these risks depend upon the degree of metabolic control of their DM in the first trimester and the risks differ in the degree of control necessary to minimize them and the degree to which they can ultimately be reduced [4]. Indeed, a stricter degree of metabolic control is necessary to avoid spontaneous abortions than major malformations and although the risks for both complications can be reduced by improved metabolic control, interestingly the risk for major malformations remains elevated, when compared to the risk for non-diabetic women, despite good to excellent control [4]. This morbidity confers a considerable financial and health burden on the individual and society at large [5], and effective preconception care has been demonstrated to achieve its major intended health benefits and is associated with reduced resource utilization and substantially reduced costs [6]. Therefore, for both health and economic reasons, clinical practice and public policy should embrace preconception care [6]. With preconception planning and careful dietary and blood glucose management during pregnancy, complications can be minimized and an optimal outcome of pregnancy can be achieved in women with DM; good to excellent control does reduce the risk for spontaneous abortions to a rate comparable to that seen in non-diabetic women and they could have nearly the same chances as women without DM to have a healthy infant [4,7,8].

2. Methods

The design is a retrospective analysis of data obtained from case notes of all patients aged 18–40 years (arbitrary cut-off) attending the general DM clinics at our hospital over a period of 6 months. We identified 73 patients aged between 18 and 40 years from the out patient clinic register who attended the adult general DM clinics for annual review appointments. This age range was chosen to include majority of the patients in the child-bearing age group attending the adult general DM clinics at the hospital. We acknowledge that not all 18–40-year-old women will be attending the hospital (especially if they have type-2 DM), or if non-compliant, so the population could be quite selected. The documentations at the annual review clinic visits were reviewed, and we aimed to assess the preconception care of patients with both satisfactory and poor glycaemic control (this sub-group could be attending more frequently). Doctors of all grades including senior house officers, specialist-registrars, general practitioner-clinical assistants, and consultants take part in the conduct of the general adult DM clinics. Three patients were excluded from the study as one did not have DM, another had DM of less than 12 months duration and it was not possible to trace the notes of third patient. The total number of patients studied was therefore 70. The clinical points assessed included the prevalence of microvascular complications, HbA1c, blood pressure (BP) measurements, and treatment with newer insulin analogues, folate supplements and potentially teratogenic drugs as well as history of alcohol intake and smoking habits. Particular focus on whether preconception counselling was offered and discussion of contraceptive issues documented was made.

3. Results

Mean age of patients was 32 years, 56 patients (80%) had type-1 DM, and the mean duration of DM of all the patients taken together was 13 years. Preconception counselling or discussion of contraception was documented in 17 patients (25%). Of these 17 patients, preconception counselling per se was given to 12 patients (who were on the oral contraceptive pill), contraception was discussed with four patients (not on any form of contraception), one patient was referred to the joint antenatal-DM clinic due to the suspicion that she may have been pregnant, and one patient had had a hysterectomy. In the remaining 52 patients (74%), there was no documentation regarding contraceptive measures. A history of alcohol intake was documented in six patients (9%), and there was no documentation of whether the patient consumed alcohol or not in the remaining 64 patients (91%). Smoking history was documented in the notes of 27 patients (39%), and in the remainder, there was no documentation either way. Twenty-nine patients (41%) were on treatment with potentially teratogenic drugs. Examples of these included angiotensin converting enzyme (ACE) inhibitors, rosiglitazone, carbamazepine, fluoxetine, venlafaxine and cipramil. Folate supplementation was not given/discussed in any of the patients, though it was not relevant to one patient who had had a hysterectomy. Documentation of whether HbA1c was done or not and recorded was analysed for the last annual visit and the two clinic visits prior to that. HbA1c measurements during these three DM clinic visits were recorded in 99%, 91% and 84% of the patients, respectively. Mean HbA1c values for the most recent visit, and the two visits preceding the last annual review were 9.1%, 9.0% and 9.3%, respectively. Documentation regarding home blood glucose monitoring was seen in 51 patients (73%) and of these 46 patients (66%) had been checking their glucose levels at home. Forty-three patients were on treatment with insulin analogues, and 24 were not. There was no documentation of the type of insulin used for treating DM in three patients. No documentation regarding discussion over the safety of newer insulin analogues in pregnancy was evident in any of the notes that were examined. Sixty patients (86%) had BP