Service redesign for women diagnosed with Gestational Diabetes Mellitus (GDM) by Noreen Dunnachie - Lead Midwife for Diabetes, NHS Ayrshire & Arran

The primary aim of this project was to provide specialised tailored care to all women with GDM, resulting in enhanced delivery of service with improved outcomes for both mother and baby.

In recent years the number of women in Ayrshire and Arran diagnosed with GDM has increased threefold, from 7% in 2010 to 22% in 2016, peaking at 25% in 2015. This increase in demand resulted in an unsustainable service with heavily oversubscribed clinics which in turn led to infrequent and inconsistent specialised care for women.

During this improvement project an opportunity was revealed to implement a second complimentary educational intervention for women at risk of GDM.

Stage 1. Outcomes to date show a significant increase in women able to manage their condition with diet therapy alone as well as a reduction in the mean birth weight of their babies.

Stage 2. Introduces earlier education for all women at risk of GDM, addressing diet and lifestyle choices for women and their families. Although delivered in pregnancy, this education aims to reduce the potential progression of GDM to type 2 diabetes whilst also having a positive impact on women’s long term health. Women participating experience the benefits of peer support within an interactive group session for which feedback has been consistently positive.

Following the introduction of the new Management of Diabetes guideline in 2010 from the Scottish Intercollegiate Guidelines Network (SIGN 116), the number of women with GDM increased dramatically. Historically all these women attended a Consultant led clinic within the Maternity Outpatient Department. This clinic was heavily oversubscribed resulting in extremely long waiting times for these women. The workload within the department became unsustainable.

As part of an NHS Education Leadership project in 2011, a randomised questionnaire issued to women confirmed that the advice women received was inconsistent. Part of the 1st stage service improvements focused on improving women’s satisfaction with their care, a number of person-centred changes were implemented. Plan, Do, Study, Act cycles were used to collect data and feedback from key stakeholders.

Following a diagnosis of GDM each woman attended a one hour meter demonstration and education appointment which provided 1:1 advice tailored to each individual. The introduction of a telephone clinic allowed weekly diary reviews of blood glucose levels which facilitated timeous dietary changes without the need to attend hospital based clinics, thus enabling women to retain community led Midwifery care. This has significantly reduced the number of clinic appointments and medical input. Consequently, the number of women able to manage their diabetes with diet control alone has significantly increased. In addition, our data has shown a reduction in the mean birth weight of babies born to women with GDM.

Randomised questionnaires were re issued and showed significant improvement in women’s satisfaction of the service.

The Age of Diabetes – State of the Nation (Diabetes Scotland, 2015) inspired the 2nd stage service improvement. The consequences of obesity and GDM are well publicised. Current research now suggests a strong association with poor long term health outcomes within this group of children born to women at risk of GDM.

Currently for around 75% of women attending for an Oral Glucose Tolerance Test (OGTT), their results are normal. This group all have significant risk factors for GDM, with 66% due to high BMI.
With this in mind, a new designated OGTT clinic was set up utilising the 2 hour wait time between blood samples by providing a group education session.

Women were invited to attend for testing at an earlier gestation facilitating more timely intervention by earlier diagnosis. All women are now exposed to the education (previously only women with an impaired result).

Close liaison with the dietetic team provided both expert education on diet and lifestyle choices as well as staff training to enable facilitation of the group session by Health Care Assistants. In addition to diet/lifestyle education, the group session allowed for discussion around the impact of impaired results on pregnancy, delivery and neonatal adaptation.

Women experience all the benefits of peer support within the interactive group session thus enhancing their time spent within the unit. Ongoing feedback data has been extremely positive.

This project identified an increased and unsustainable service within the Maternity Service provision, and using improvement methodology has transformed the service for both service providers and service users.

It has resulted in better patient flow throughout the busy Maternity Outpatients Department allowing all members of the Multidisciplinary Team (MDT) to deliver timeous specialised care.

This two-stage service improvement project has delivered enhanced person-centred care with improved health outcomes for both mum and baby. The women also retain all the benefits of remaining within Community Led Care. This change concept allows for early intervention with women through timely evidenced-based education in a more inviting and relaxing environment. Women are known to be more receptive to positive lifestyle changes during pregnancy and therefore will be motivated to engage with health professionals.

It has also provided a platform for discussion around improving the long term health of mum and baby as well as an enhancement in staff education and knowledge.

With enhanced tailored individualised care as well as the introduction of a weekly telephone clinic, Stage 1 has demonstrated a significant increase in the number of women able to manage their GDM with diet control only, ie avoiding the need to commence medication. To date this number has remained stable, an indication of the success and sustainability of this improvement concept.

The reduction in the requirement for medication to control blood glucose levels as well as negating the need to involve the MDT and hospital based clinic visits has not compromised pregnancy outcomes. Data shows a reduction in the mean birth weight of babies born to women with GDM within A&A and when compared to mean birth weights from previous pregnancies equates to a 6.5% decrease in birth weight in the current pregnancy.

Following the introduction of the OGTT clinic and interactive group sessions in Stage 2, women's feedback has been collated over the past year. This data has provided suggestions for further evolving improvements to be implemented.

Over the past 8 months the feedback has been consistently very positive with women reporting the benefits of the session in relation to not only their pregnancy but also how the education has made them focus on the health of their wider family unit. Feedback from women who had previously had GDM has highlighted and praised the change in the way care is delivered with many of the women returning for their postnatal OG. The change in service provision for women with GDM within A&A has been transformational! The implementation of changes described straddles multiple current health recommendations and national guidelines including the Age of Diabetes Report (2015) and current diabetes guidance from the National Institute for Clinical Excellence (NICE, 2015).
Diabetes is a very current issue that impacts on multiple strands of the NHS. Health promotion and education enables women to make positive change and take responsibility for their own health. Change within Healthcare is inevitable; therefore continued up to date evidence based knowledge is imperative and needs to be continually shared with all members of the MDT. TT reporting a sustained change in their diet and lifestyle choices.

The role of Maternity Services is at the forefront of Women and Children’s health. Women are focused on health during pregnancy therefore providing person-centred care & education is paramount at this time in facilitating a positive impact on the health and wellbeing of the family unit. Our data shows sustained improvement outcomes and clearly demonstrates the magnitude of benefits from this improvement work.