Session title: Management of the diabetic pregnancy: medical nutritional therapy and pharmacological therapy during pregnancy

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★ Abstract title:

Role of ICT and eHealth in diabetic pregnancy

Biography

Biography Dr Given is a Research Associate in Data Analysis and Methodology at Ulster University. She has a Medical degree and practiced clinically before undertaking a masters in Health Promotion and Population Health and a PhD in diabetes. Her research is centred around maternal health during pregnancy and the impact this can have on the child. In the Tele-Mum trial she explored the potential for telemedicine to be used in the care of those with gestational diabetes. In her current role, Dr Given works in the Administrative Data Research Centre - Northern Ireland, part of a group of universities and national statistics agencies spread throughout the UK, which facilitate research using de-identified, linked administrative data. She is currently working on a project to explore the effect of metformin use in pregnancy on the risk of congenital anomaly, maternal and child health and child educational outcomes.

P. Given[1].
[1].

Body

Role of ICT and eHealth in diabetic pregnancy

Pregnant women with diabetes require frequent contact with their clinicians in an attempt to achieve normoglycaemia. With increasing numbers of women diagnosed with diabetes in pregnancy, particularly gestational diabetes, the demand on health services and the budgetary impact, particularly on health care practitioner time, will be significant. Healthcare resources are finite so it is incumbent on the clinical and research community to develop programmes which can deliver healthcare more effectively and efficiently. eHealth has been proposed as a potential solution which could minimise the burden of disease on health-care providers, and the system as a whole, while at the same time increasing access to and efficiency of care.

eHealth is the use of information and communication technologies (ICT) for health and is one of the most rapidly growing areas in health today. eHealth includes infrastructural arrangements such as regional health networks and electronic patient records systems as well as telemedicine. Telemedicine literally translated means “healing at a distance”. Rather than being a single technology, telemedicine is part of a wider process or chain of care. Its distinguishing feature is the reliance on ICT as a substitute for personal contact between participants. Telemedicine covers a wide range of activities including diagnosis, treatment and prevention of disease and injuries, research and evaluation and education of health care providers. There are numerous telemedicine programmes worldwide covering virtually every medical speciality. Most serve people in rural areas or the elderly in their homes.

In the care of those with diabetes telemedicine has been used for retinopathy screening, patient education, ulcer management and interventions to improve diet, increase physical activity and encourage weight loss. The most frequent use of telemedicine in diabetes however has been for the transmission of blood glucose values from the patient to their health care provider. Telemedicine tends to be used in this way in an attempt to improve the impact of self-monitoring of blood glucose (SMBG), to make SMBG more compatible with the patient’s lifestyle and to engage patients more in their own care. As per telemedicine in diabetes generally,

the most common use for telemedicine in pregnancy affected by diabetes has been for transmission of SMBG values. This has been done with the aim of facilitating increased frequency of review, reducing the need for such frequent face-to-face review and enabling faster transmission of SMBG values to the health care team.

This presentation will set the scene relating to the use of telemedicine in diabetic pregnancy. It will discuss the findings from Tele-Mum[1], a feasibility study for a randomised controlled trial, conducted to determine the feasibility and acceptability of using telemedicine in the diabetes care of those with gestational diabetes and to ultimately replace alternate diabetes review clinics with telemedicine review. Patient and staff perspectives of using telemedicine will be discussed along with the broader challenges encountered when implementing and evaluating telemedicine services. As this was a feasibility study it was not powered to detect significant differences however, the process of study set up, staff training, engagement with industry and multi-site trial design led to considerable learning and insight in addition to the measured outcomes.

Conclusions to be raised as discussion points include that; the women in the study were pleased to able to reduce clinic attendance through tele-monitoring but were also reassured that face-to-face contact was still available as a ‘safety net’, that in rural areas the ICT infrastructure may not be sufficiently reliable to support remote monitoring, that the devices and services offered by industry are rapidly changing and gathering evidence to support their application in practice is a challenge not least due to ambiguity surrounding identification of the most appropriate outcome measures. While eHealth can make a valuable contribution to the management of diabetic pregnancy it should not be viewed as a simple, cheap, panacea to overcome all the issues raised in the introduction.

1. Given JE, Bunting BP, O’Kane MJ, et al. (2015) Tele-Mum: A Feasibility Study for a Randomized Controlled Trial Exploring the Potential for Telemedicine in the Diabetes Care of Those with Gestational Diabetes. Diabetes Technology & Therapeutics, 17(12): 880–888.