

AUDIT: MANAGEMENT OF DIABETES IN A RURAL PRIMARY CARE SETTING (THURSO, SCOTLAND)

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Objective: To examine the degree to which targets for diabetes control including haemoglobin (HbA_{1c}), blood pressure, body mass index (BMI) and annual ophthalmology reviews are achieved in a rural general practice.

Methods: A retrospective medical record audit was conducted among 274 diabetic patients registered under the practice.

Participants: Type 1 and type 2 diabetes mellitus patients.

Results: A total of 274 patients (124 female, 149 male) with a mean age of 61.68 years old were studied in this audit. Of those, 84.9% of the patients had type 2 diabetes mellitus, while 15.1% had type 1 diabetes mellitus. A total of 19.7% of patients met the SIGN guidelines criteria for HbA_{1c} levels (<6.5%), while 88.9% of patients met the SIGN guidelines criteria for blood pressure control (<140/85 mmHg). A total of 91% of diabetic patients received annual ophthalmology reviews and 84% were found to have a BMI of 25 and above. This audit revealed a significant correlation between the types of medications taken and the HbA_{1c} control in diabetic patients ($p < 0.001$). Patients taking oral hypoglycaemic agents have lower HbA_{1c} levels compared with patients on insulin injections.

Conclusion: The results of this audit in a rural practice show that HbA_{1c} levels among patients are still very low, although blood pressure control and the percentage of patients receiving annual ophthalmology reviews are quite good. Interventions to improve HbA_{1c} levels in rural areas should be implemented to enhance the care for diabetes in the rural community.

PREVENTION OF TYPE II DIABETES MELLITUS IN RURAL SETTINGS

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Introduction: The incidence of type 2 diabetes mellitus has been rising during the past decade, even though this is an entirely preventable condition. A number of factors may have contributed to this increase, including obesity and unhealthy dietary lifestyles.

Aims: To assess healthcare workers' views regarding:
i) the strategies that can be used to increase awareness about the prevention of type 2 diabetes mellitus; and
ii) the reasons why lifestyle interventions fail in rural settings.

Limited research has been published regarding these parameters.

Methods: An anonymous survey of all healthcare workers employed at Princes Street and Riverbank surgeries in Thurso, between 8–19 February 2010.

Results: Of the 30 healthcare workers, 26 (87%) returned the questionnaire. Verbal information (19%) and posters in surgery (19%) were thought to be the most effective strategies, followed by local advertisements (15%) and patient leaflets (12%). Regarding the reasons why lifestyle interventions fail, the majority of healthcare workers thought that an inability to adapt personal lifestyle to changes (38%) was the most important factor. This was followed by lack of self-control (35%) and motivation (35%). A general consensus was that patient education, in different forms, can be the single most effective way of preventing this condition.

Discussion: The results of this survey showed that a variety of strategies can be employed to increase patients' awareness in rural settings. These methods can also be used at a national level. Finally, further research should be devoted to this field of medicine.

CAN PODIATRISTS IMPACT ON SELF-MANAGEMENT FOR PEOPLE WITH TYPE 2 DIABETES? PROPOSAL FOR A RANDOMISED CONTROLLED TRIAL

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Background: Type 2 diabetes has reached epidemic levels in the UK. Effective management of the condition inevitably means good self-management by people living with diabetes on a daily basis. Dietary changes to improve blood glucose (HbA_{1c}) control provide ongoing challenges for both patients and healthcare professionals. Podiatrists are well placed to implement long-term support of self-management strategies based on a valid theoretical framework.

Aims: This research aims to assess the effectiveness of podiatrists implementing cognitive behavioural strategies with diabetic patients, and to promote the use of collaborative person-centred consultations in daily healthcare practice.

Methods: Podiatrists, recruited from diabetic clinics in Scotland, will complete cognitive behavioural intervention training delivered by a psychologist and a dietician. Over 12 months, they will implement interventions with diabetic patients to improve self-efficacy and dietary changes. Mixed methodologies will be used to ensure the effectiveness of the intervention is evaluated in its entirety. The biomedical outcome (HbA_{1c}) will be monitored as part of usual care. Diabetes Quality of Life and Diabetes Treatment Satisfaction Questionnaires will be used at the baseline and completion points. Process evaluation through interviews and focus groups will provide a picture of the way in which the interventions were used and experienced by both patients and podiatrists.

PRAGMATIC EXPERIENCE OF LIAISON PSYCHIATRY WITHIN THE DIABETIC OUTPATIENT DEPARTMENT

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Psychological provision for diabetes patients is very patchy nationwide, despite evidence that there is a high level of distress and psychiatric co-morbidity within this population, often underdiagnosed and undertreated. Furthermore, there is good evidence that patients show poorer control, higher rates of complications and greater mortality when psychiatric disorders such as depression coexist with diabetes. There is growing recognition that effective psychological interventions may be delivered within diabetes departments, and numerous studies have shown the benefit of such strategies to various sub-groups of the diabetic population. Such research evidence is often difficult to transfer to everyday clinical practice. This may be due to a number of factors, including limited time to develop local strategies and difficulties in identifying where to begin.

I set up a trial service in the Diabetic Outpatient Department in the Royal Infirmary of Edinburgh. This was a six-month pilot service, one session per week, providing direct liaison for difficult to manage patients; a weekly clinic within the diabetic department; and training for the clinical staff on psychological matters.

Combining a standard psychiatric assessment with a comprehensive diabetic history allowed both the diagnosis of psychiatric disorders and a formulation of the patient's problems, which could inform the most appropriate treatment approach.

After consultation with diabetes staff across Lothian, we are developing a stepped protocol, including simple interventions that can be delivered by diabetes specialist nurses with ongoing supervision and input.

EXENATIDE WITH INSULIN: IS IT SAFE?

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Aim: Exenatide, an incretin mimetic, is a new class of medication which has been approved by the National Institute for Health and Clinical Excellence (NICE) for use in type 2 diabetes, in conjunction with oral hypoglycaemic agents. It is not yet licensed to be used with insulin. NICE recommends exenatide if the body mass index (BMI) is >35, if there is inadequate glucose control (HbA_{1c} >7.5%) or specific psychological, physical or biochemical problems arising from weight gain.

Method: We carried out a retrospective evaluation of 31 patients on exenatide and insulin. The case notes were reviewed and their medications, BMI and HbA_{1c} documented before and after starting on exenatide.

Results: Of the 31 patients, 53% were male and 48% female. A total of 72% were started on exenatide due to a BMI >35 and 59% due to both raised BMI and poor glycaemic control. The age range was 50–70 years. A total of 37% of the patients were on BD insulin, 47% on a basal bolus regime and 16% on once-a-day insulin. Body mass index and HbA_{1c} improved in 71% and 52% of patients respectively; however, in 29% of patients there was no change in the BMI and HbA_{1c} . More importantly, the addition of exenatide with insulin did not cause an increase in the BMI of any patients or cause hypoglycaemic events.

Discussion: Exenatide lowers blood glucose through an enhancement of glucose-dependent insulin secretion, the suppression of excess glucagon secretion, reduction of food intake and slowing of gastric emptying. In our audit exenatide improved glycaemic control and BMI in the majority of the patients and its combination with insulin did not produce any side effects. Moreover, our patients did not require additional monitoring.

PREGNANCY OUTCOMES IN A COHORT OF TYPE 1 AND TYPE 2 DIABETICS IN AN URBAN POPULATION

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Background: Diabetes is the fastest-growing global epidemic. Younger women are increasingly affected and therefore the numbers of pregnant women with diabetes are rising at alarming rates. It is recognised that women with diabetes are a high-risk group who experience significantly more intervention during pregnancy than the general maternity population: induction rates are reported as around 39%, Caesarean section rates at 67% and the spontaneous pre-term delivery rate is twice that in the general maternity population (CEMACH, 2005). As clinicians we are challenged to look at ways of providing high-quality care and to optimise pregnancy outcomes in this growing population of women.

Methods: This retrospective analysis looked at pregnancy outcomes including gestation at delivery, rate of pre-eclampsia, pre-term delivery and rate of neonatal admission of babies of all women with pre-existing diabetes from 2007 to 2008 in an urban population. Data were collected from routine antenatal and diabetes records.

Results and conclusion: These data provide us with the largest contemporary UK cohort of women with type 1 and type 2 diabetes. The methods, timing and success of induction of labour were compared between type 1 and type 2 diabetes. Almost 80% were delivered by Caesarean section. We discuss the contribution of early induction of labour as a potential cause of this high Caesarean section rate. The birthweights and outcomes of babies born to women were also compared.

**PREVENTING TYPE 2 DIABETES MELLITUS:
A STUDY OF WAIST CIRCUMFERENCE AND
INFLAMMATORY STATUS IN PRE- AND POST-
MENOPAUSAL INDO-MAURITIAN WOMEN**

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Effective prevention of type 2 diabetes mellitus (T2DM) relies on risk assessment, which has remained elusive. The metabolic syndrome (MS) identifies a risk state with unknown aetiology and its clinical usefulness thus remains controversial. Central obesity has been strongly implicated in the aetiology of MS. The risk associated with a particular waist circumference (WC) is believed to be country- and ethnic-specific, and the establishment of cut-off points for a particular ethnic group may depend on their country of residence.

This preliminary cross-sectional study was carried out on pre- and post-menopausal, healthy Mauritian women of Indian origin to shed light on the relationship of central obesity with inflammation, which has also been strongly implicated in the aetiology of MS, using existing cut-off values for WC. Overweight subjects (body mass index, BMI=25–29.9) were recruited in the age group 41–55 years to fall in three WC categories: low: <80 cm; high: 80–88 cm; and very high: >88 cm.

Pro-inflammatory molecules were found to be significantly higher in subjects with central obesity (WC \geq 80 cm), as was the erythrocyte sedimentation rate, whereas adiponectin, an anti-inflammatory molecule, was significantly lower. Differences were more marked in post-menopausal women across WC categories. Both BMI and WC correlated positively with all inflammatory markers studied and negatively with adiponectin. In the high WC category, interrelationships were conflicting, suggesting that inflammatory changes due to central obesity may start to occur in that category with interpersonal variations.

Our data show that central obesity is associated with a pro-inflammatory status, implicated in T2DM pathogenesis. This study contributes to the generation of worldwide ethnic-specific data required to provide global evidence for the establishment of central obesity as a metabolic risk for T2DM and the consideration of anti-inflammatory therapy along with lifestyle interventions and other pharmacological therapy in the prevention of T2DM.