

materials was generally good but attendance at group activity sessions was low. Interview analysis identified: (1) barriers to recruitment, including lack of clinic endorsement; (2) motivation for participation, including the desire to learn about activity level; (3) facilitators of engagement, including enjoyment and family involvement; (4) experience of data collection, including the acceptability of wrist-worn accelerometers, and; (5) perceived benefits of STAK-D, including increased understanding, parental engagement and family-oriented physical activity.

Conclusions: STAK-D was feasible and acceptable to children, their parents and healthcare professionals, but group sessions may be logistically difficult. Recruitment and retention may be improved with a clinic-wide approach to recruitment.

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Insulin administration training for non-registered practitioners: improving quality of life for vulnerable and frail adults living with diabetes

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Background: The insulin administration training programme in Southern Health has been developed over 5 years, having been created to meet the needs of service users unable to administer their own insulin. Previously insulin administration was performed by community care teams (district nurses) but due to increasing demand an alternative strategy was required. Support workers roles are defined by a care plan developed by the care manager with advice from community nurses to meet the assessed needs of the person who needs care or support.

The training ensures that vulnerable adults can have their insulin administered by someone they know and trust at a time convenient to them rather than having to wait for the community nurse to arrive.

Our aim was to review the insulin administration training programme delivered to enable non-registered practitioners to competently administer insulin.

Methods: The training programme encompasses theoretical and practical training, and includes an electronic knowledge assessment. Mentoring is provided by community nurses.

Results: 113 carers and support workers were trained April 2015–March 2016. They support individuals living with a range of conditions including dementia, learning disabilities and mental health problems. After receiving training, 86% felt confident and have been assessed as competent to give insulin, and 77% felt there had been a significant improvement on quality of life for service users.

Conclusion: Carers and support workers can be trained to safely administer insulin thus improving quality of life for many vulnerable and frail people living with diabetes.

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Type 2 diabetes, insulin and carbohydrate awareness group: analysis of newly developed patient education session

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Objectives: To develop a NICE compliant structured education programme filling the gap for those who have Type 2 diabetes and are already on insulin; to increase their understanding and awareness around insulin and carbohydrates aiming for improved glycaemic control.

Methods: A curriculum was developed covering healthy eating guidelines and sources of carbohydrate in the diet, glycaemic index, insulin types and action times, injection technique and practical advice on living with diabetes. Over 12 months, nine courses were held, with participants attending a single 3h session taught by a dietitian. Each participant received a course workbook. HbA1c was collected pre course and three – six month post course. Questionnaires assessing quality of life and confidence / knowledge surrounding insulin and carbohydrate were collected pre and post course. Results are based on the first seven courses (43 participants) as some HbA1c data is still pending from the more recent courses.

Results: The average pre course HbA1c was 73mmol/mol and average post course HbA1c 66mmol/mol, 66% of participants saw an improvement, with an average reduction of 11mmol/mol. Confidence in insulin adjustment and carbohydrate awareness almost doubled by the end of the course. Quality of life scores (based on selected questions from the PAID questionnaire) showed no significant change from pre course to post course.

Summary: Our audit demonstrates that this new educational programme has been effective in improving glycaemic control, patient confidence and empowerment and has been positively received by the participants. This also makes more effective use of the specialists' time and could play a larger role in future educational programmes for patients with Type 2 diabetes.

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The understanding of sick day rules in people living with diabetes

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Aims: Our aim was to gain insight into the knowledge of people living with diabetes regarding the “sick day rules”.

Methods: 100 participants living with diabetes completed an anonymous questionnaire regarding sick day rules. They were approached whilst waiting for outpatient appointments at a large university teaching hospital. The questionnaire was based on the guidelines published by TREND-UK which incorporates DVLA and Diabetes UK guidance.

Results: Of the 100 participants, 74% lived with Type 2 diabetes. The majority (81%) of the study population were over 45 years of age and white British (61%). 19% did not have English as their first language. Of this group, one-fifth (21.1%) did not communicate in English at all and relatives or interpreters helped respond on their behalf. Approximately, two-thirds (68.9%) of type 2 and three-quarters (76.9%) of type 1 participants recalled receiving information regarding their diabetes management in times of

illness. 15.4% of type 1 participants reported that they would stop taking their insulin if vomiting or not eating, which contradicts current guidelines, and poses a risk of diabetic ketoacidosis.

Conclusion: The majority (71%) of patients have received information regarding sick day rules but did not understand or recall them in sufficient detail to implement them. Special attention is needed for those who cannot communicate in English. The Diabetes UK website does not fully cater for sick day education via their leaflets in other languages. This is an area of patient education that can and should be optimised.

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Online patient education in diabetes or cardiovascular disease: a systematic review of systematic reviews

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Aim: Online patient education is a growing modality to improve a wide variety of management aspects in many chronic diseases, including Type 2 diabetes and cardiovascular disease. Multiple systematic reviews have been undertaken in the last decade since the mainstream introduction of the internet. The aim of this review of reviews is to explore the effectiveness of online patient education in Type 2 diabetes and cardiovascular disease and to synthesise the evidence on all possible patient outcomes in one comprehensive article.

Methods: A systematic Literature search was conducted from January 2005 to August 2016 using the following databases: Ovid Medline, EMBASE, Cochrane Database of Systematic reviews for articles meeting inclusion criteria. Quality assessment and data extraction was carried out by two independent reviewers.

Results: In total 22 systematic reviews were eligible for inclusion, synthesising evidence from 80 primary studies that were of relevance to our research question. Five systematic reviews were graded as high quality. Only 8 reviews used meta-analysis to combine results of primary studies. Benefits of the technology were seen across a wide range of biological, behavioural, cognitive and emotional measures, including improvements in HbA1c, physical activity, knowledge and depression levels.

Conclusions: Online patient education has a wide range of potential benefits for people with Type 2 diabetes or cardiovascular disease. Future research should focus on understanding the demographics of patients who use these interventions, cost efficacy, clinical integration and applicability of the technology outside of the developed world.

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Management of hypoglycaemia in people with Type 1 diabetes and referral for transplantation among UK diabetologists: results from a national survey

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Background: Islet or pancreas transplantation is indicated for some people with Type 1 diabetes with disabling hypoglycaemia. We noted variation among clinicians in approach to islet transplant referral and hypothesised that this may reflect inconsistency in diagnosis and management of hypoglycaemia.

Aims: To assess perception, assessment, and management of hypoglycaemia in Type 1 diabetes amongst UK diabetologists and trainees.

Methods: A web-based questionnaire assessed diagnosis, use of resources in managing hypoglycaemia, and clinician expectations and concerns when referring for transplantation.

Results: From 104 responses, 70% underestimated hypoglycaemia rates in Type 1 diabetes. 97% of respondents took a history of hypoglycaemia in clinic, but only 19% routinely used a validated risk score assessing awareness of hypoglycaemia. Less than 10% of patients with frequent hypoglycaemia were offered evaluation by continuous glucose monitoring. 55% of respondents reported availability of structured education for most patients with hypoglycaemia. A third identified that many patients do not commence insulin pump therapy despite clinical need, with patient related factors and failure to fulfil national (NICE) criteria being major barriers. Teaching and district general hospital specialists had similar access to education and pumps. For patients suffering significant hypoglycaemia, 68% of responding clinicians would refer for islet or pancreas transplantation, although 70% were concerned about immunosuppression and 59% felt islet transplantation would not meet patients' expectations.

Conclusion: Hypoglycaemia is under-recognised and inadequately assessed by many diabetes specialists. Poor access to diagnostic tools and education interventions limit recognition and treatment of hypoglycaemia, and may explain variations in referral of affected patients for transplantation.

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Introducing structured education for Type 2 diabetes to a remote and rural Scottish population

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Aims: Argyll and Bute is a 2,668 square mile rural area, including islands, with a diabetes population of 4,000. Prior to 2013 and the creation of two new posts with a service improvement remit there was no structured education for Type 2 diabetes. These posts aimed to introduce high quality structured education and avoid any disadvantage to rural populations.

Methods: X-PERT was selected as an appropriate course due to its evidence base and the option to offer a one-off 'First Steps' session in some areas. Multiple funding bids were submitted and short-term funding was achieved. Three educators were trained and two educators undertook significant travelling to bring to course to different localities. The six-week course was delivered in four centres and First Steps was delivered in more distant areas.

Results: 218 participants completed the X-PERT course and 200 attended First Steps between January 2015 and September 2016. Positive feedback was received from patients and referring professionals, and this was used to justify further successful bids for short term funding and to train educators based in distant parts of the locality.

Conclusions: Implementing structured education in a large rural area can be a daunting task. Approaching this by starting with a small number of travelling educators and then expanding the programme was effective. Use of the one-off First Steps session was helpful to gather interest in the full programme, and provide education where initially it was impossible to offer the six-week programme.