Prevention of type 2 diabetes in a high-risk population: a closed-loop audit in primary care

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Background

Diabetes mellitus remains as one of the leading causes of preventable chronic disease in the UK. Minor ethnicities such as South Asian, Chinese and African-Caribbean populations are predisposed to developing diabetes significantly earlier in life.[1,2] In fact, the South Asian population is the second largest ethnic group in the UK after the white population.[3]

In terms of ethnic population, our general practice in Newport with a total patient population of over 4,700 is a microcosm of the UK. The patients come from an ethnically and culturally diverse background with 27% of South Asian population.

The National Institute for Health and Care Excellence (NICE) guideline on type 2 diabetes prevention in high-risk populations recommends a two-stage risk assessment for high-risk populations.[4] Our aim was to evaluate and improve the identification of high-risk adults and provide effective interventions to prevent or delay the onset of type 2 diabetes in accordance with the NICE guidance.

Methods

An electronic search was performed on the Vision database in St Paul's Clinic. Data on number of eligible patients with a risk assessment performed, number of high-risk patients with haemoglobin A_{1C} (HbA_{1c}) tested and number of patients with matched interventions provided were collected.

Following the audit, the following interventions were implemented, and a re-audit was performed 12 weeks later:

- Presentation and education on use of diabetes risk assessment tool in practice meeting.
- Set up of telephone and text communications generated recall of patients with high-risk score for HbA_{1c} blood test.
- Recall of patients with impaired glycaemic control or suspected diabetes for lifestyle advice and review.

Results

The baseline search included a total of 110 eligible patients who had their risk assessment performed. Nine of them were identified as high risk with a score of more than 5.2. At the re-audit, 269 patients had a risk assessment in place with 124 patients identified as high risk.

After changes were implemented, the percentage of high-risk patients who have had a HbA_{1c} test performed in the last 12 months increased from only 33% to 73%. There was a slight improvement on lifestyle intervention for patients with an increased HbA_{1c} (baseline = 0%; re-audit = 28%).

Of the 47 patients with a high HbA_{1c}, 32 had a HbA_{1c} level between 42–47 mmol/mol and 15 had a HbA_{1c} level of 48 mmol/mol and above. This re-audit has also identified four patients with pre-existing diabetes who were not previously put on the diabetes register, two newly diagnosed patients and nine patients with a HbA_{1c} of more than 48 mmol/mol to be reviewed by the GP.

Conclusion

Continued patient education and training for healthcare professionals should be undertaken to improve the outcomes of patients who are at high risk of developing diabetes. Implementation of sustainable change such as automated alerts in identified high-risk patients will warrant prompt review by the healthcare professionals. The diabetes prevention programme as recommended by the NICE guideline should be better utilised in ensuring preventative measures and matched interventions are provided timely. ■

Conflict of interest statement

None declared.

References

1 Misra A, Ramchandran A, Jayawardena R, Shrivastava U, Snehalatha C. Diabetes in South Asians. *Diabet Med* 2014;31:1153–62.

2 Mukhopadhyay B, Forouhi N, Fisher B, Kesson C, Sattar N. A comparison of glycaemic and metabolic control over time among South Asian and European patients with type 2 diabetes: results from follow-up in a routine diabetes clinic. *Diabet Med* 2006;23:94–8.

3 Office for National Statistics. *2011 census*. ONS, 2013. www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/keystatisticsandquickstatisticsforlocalauthoritiesintheunitedkingdom/2013-10-11#ethnicity-and-country-of-birth [Accessed 26 February 2019].

4 National Institute for Health and Care Excellence. *Type 2 diabetes: prevention in people at high risk*. London: NICE, 2012. www.nice.org.uk/guidance/ph38/chapter/Recommendations#risk-identification-stage-1 [Accessed 26 February 2019].

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