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Research questions and outcomes

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Methods/design

Goals

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Objectives

Primar research questions

Table 1 Study outcomes and definitions

Outcome type	Outcome	Definition
Primary	The prevalence of intermediate hyperglycaemia and T2DM	Proportion of adults aged 30 years or older with WHO categorisations for intermediate hyperglycaemia (impaired fasting glucose or impaired glucose tolerance) and T2DM
	Two-year cumulative incidence of T2DM among individuals with intermediate hyperglycaemia at baseline	Proportion of adults aged 30 years or older with plasma glucose cut-off categorisations for intermediate hyperglycaemia at baseline who are categorised as T2DM at endline
Secondary	Blood pressure	Mean population diastolic and systolic blood pressure
	Prevalence of hypertension	Proportion of adults aged 30 years or older with systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg or self-reported current treatment with anti-hypertensive medication
	Body mass index	Mean population BMI
	Prevalence of overweight and obesity	Proportion of adults aged 30 years or older with a BMI of 23 kg/m ² or more
	Abdominal obesity	Proportion of adult men and women aged 30 years or older with waist-to-hip circumference ratio >0.9 or >0.85 , respectively
Explanatory	Quality of life score	Mean health-related quality of life (EQ-5D)
	Psychological distress among self-reported diabetics	Mean SRQ score among adults aged 30 years and older with self-reported diabetes
	Physical activity	Proportion of adults aged 30 years and older engaged in 30 minutes or more of physical activity per day on at least 5 days per week
	Intake of fruit and/or vegetables	Mean number of portions of fruit or vegetables consumed per adult aged 30 years or older per day
	Population knowledge about diabetes risk factors, symptoms and complications	Proportion of adults aged 30 years and above who are (a) able to name at least one cause of diabetes, (b) able to report at least one symptom of diabetes, (c) able to report at least one complication of diabetes, (d) able to recognise complications of diabetes when prompted, (e) able to report at least one way to reduce the risk of getting diabetes and (f) able to report at least one way to control diabetes if diagnosed
	Self-awareness of diabetic status	Proportion of diabetics who correctly report their diabetic status
	Receipt of treatment or advice for diabetes	Proportion of diabetics receiving care or advice from a medical professional

Body mass index, . . . Self-Reporting Questionnaire, . . . Type 2 diabetes mellitus, . . . World Health Organisation

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Setting

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Trial design overview

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λ_k is the k -th eigenvalue of A . The corresponding eigenvector v_k is given by $(A - \lambda_k I)v_k = 0$. For $k=1$, we have $\lambda_1 = 3$ and $v_1 = \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix}$. For $k=2$, we have $\lambda_2 = 1$ and $v_2 = \begin{pmatrix} 1 \\ 0 \\ -1 \end{pmatrix}$. For $k=3$, we have $\lambda_3 = -1$ and $v_3 = \begin{pmatrix} 1 \\ -1 \\ 1 \end{pmatrix}$. The matrix P is formed by the eigenvectors v_1, v_2, v_3 as columns: $P = \begin{pmatrix} 1 & 1 & 1 \\ 1 & 0 & -1 \\ 1 & -1 & 1 \end{pmatrix}$. The inverse of P is $P^{-1} = \frac{1}{3} \begin{pmatrix} 1 & 2 & 1 \\ 1 & 1 & 1 \\ 1 & -1 & 1 \end{pmatrix}$. The matrix D is the diagonal matrix of eigenvalues: $D = \begin{pmatrix} 3 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$. The matrix A can be expressed as $A = PDP^{-1}$.

Implementation research and process evaluation

The implementation research and process evaluation phase involves monitoring the progress of the intervention and assessing its impact. This is done through a series of data collection and analysis activities. The data collected is used to evaluate the effectiveness of the intervention and to identify any barriers to implementation. The process evaluation is used to assess the fidelity of the intervention and to identify any modifications that may be needed. The implementation research and process evaluation phase is a critical component of the overall research process and is essential for ensuring the success of the intervention.

Analysis

Interim analysis and stopping rules

Interim analysis and stopping rules are used to monitor the progress of the intervention and to identify any barriers to implementation. This is done through a series of data collection and analysis activities. The data collected is used to evaluate the effectiveness of the intervention and to identify any barriers to implementation. The process evaluation is used to assess the fidelity of the intervention and to identify any modifications that may be needed. The implementation research and process evaluation phase is a critical component of the overall research process and is essential for ensuring the success of the intervention.

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Timetable

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Ethics

Approvals

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Competing interests

The authors declare that they have no competing interests.

Consent for publication

Not applicable.

Ethics approval and consent to participate

The trial has been reviewed and approved by the University College London Research Ethics Committee (4766/002) and by the Ethical Review Committee of the Diabetic Association of Bangladesh (BADAS-ERC/EC/t5100246). The trial has been registered and assigned an International Standard Randomised Controlled Trial Number (ISRCTN41083256).

Consent

Community and individual participation in the study will be on a voluntary

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