

INPLASY

Effectiveness of In-Person Versus Remote Medical Nutrition Therapy on Adults With Prediabetes: A Network Meta-Analysis and Systematic Review Protocol

INPLASY202490089

doi: 10.37766/inplasy2024.9.0089

Received: 21 September 2024

Published: 21 September 2024

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202490089

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 September 2024 and was last updated on 21 September 2024.

INTRODUCTION

Review question / Objective How does the effectiveness of in-person versus remote medical nutrition therapy on adults with prediabetes?

Condition being studied Prediabetes, adults, medical nutrition therapy, Network meta-analysis.

METHODS

Participant or population Inclusion: Adults over 18 years; No limits of sex, race, ethnicity, country; Diagnosed with prediabetes or IGT or IFG by clinical doctors following the prediabetes criteria; Exclusion: Non-human studies; Below 18 years; Health status: established or diagnosed chronic disease; Condition or health status that is not generalizable to the target population, Including but not limited to diseases or situations like heart failure, stroke, cancer, anemia, diabetes, chronic kidney disease stage 4 or above, and pregnancy or planned pregnancy in the next years etc.

Healthy adults, Animal models, In vitro studies.

Intervention Intervention groups are defined as those applied to in-person or remote medical nutrition therapy or mixed medical nutrition therapy (including in-person and remote medical nutrition therapies).

Comparator Control group: A group of patients who were exposed to standard treatment, no intervention or waiting list.

Study designs to be included We will include randomized controlled trials to assess the effectiveness of in-person, remote medical nutrition therapy or mixed therapies for prediabetes patients.

Eligibility criteria Sample size less than 10 in each group, and gray literature and abstract only will be excluded.

Information sources Databases: CINAHL, the Cochrane, EMBASE, PubMed, Web of Science.

Search data: from 01/01/1995 to 16/08/2024.
Language: No language limits, no publication period.
Searches will be re-run prior to the final analysis.
Unpublished studies will not be sought. We will search relevant studies manually.

Main outcome(s) Changes of primary outcomes and secondary outcomes from baseline to the last available follow-up, measure based on medical reports.

Primary outcome:
glycosylated hemoglobin (HbA1c), Fasting blood glucose (FBG)
Secondary outcome:
Body weight, Body Mass Index (BMI), waist circumference, total cholesterol (TC), High-density lipoprotein (HDL), Low-density lipoprotein (LDL), triglyceride (TG), blood pressure (BP).

Quality assessment / Risk of bias analysis We will use the Cochrane risk of bias tool to evaluate included studies' bias. The following five domains will be assessed: (1) bias arising from the randomization process, (2) bias due to deviations from intended interventions, (3) bias due to missing outcome data, (4) bias in measurement of the outcome, and (5) bias in selection of the reported result.

The assessment will be done at outcome level.
We will provide a descriptive table summarizing the key characteristics of each eligible study, including interventions, patient populations, and trial characteristics. A network diagram will show which intervention classes were compared, with larger network nodes indicating a greater number of patients and thicker connecting lines between nodes indicating a greater number of trials.

Strategy of data synthesis We will use the GeMTC package in R software to conduct Bayesian network meta-analysis (NMA) of the selected randomized controlled trials (RCTs). The node-splitting model (NM) will be used to check the consistency of the evidence network. If the observed differences are not statistically significant ($P > 0.05$), a consistency model (CM) will be used for the NMA; if the differences are statistically significant ($P < 0.05$), an inconsistency model (IM) will be used.

Subgroup analysis None.

Sensitivity analysis None.

Language restriction English only.

Country(ies) involved China.

Keywords Prediabetes, adults, medical nutrition therapy, Network meta-analysis.

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