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Does the dose of telephone support intervention influence health outcomes?

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Background

The Greater Green Triangle Diabetes Prevention Program (GGT DPP) was a 12-month lifestyle intervention for people at risk of developing type 2 diabetes mellitus (T2DM). The program was conducted in 2004-2006 in a 'real world' primary health care setting. It is a structured six session program implemented by trained facilitators. Participants set personal goals for lifestyle change in order to reduce their risk of developing T2DM.

Outcomes at 12 months showed that the mean 4% decline in waist circumference reduced risk of type 2 diabetes by 40%.

Provision of ongoing support via telephone has been successful in diabetes management to sustain healthy lifestyle changes elsewhere. The use of telephone support to sustain lifestyle change following diabetes prevention programs warrants investigation.

Introduction

After completion of the 12 month GGT DPP, a follow-up study was implemented to determine the effectiveness of structured telephone calls in maintaining lifestyle changes. The purpose of calls was to reinforce personal lifestyle changes and review personal lifestyle goals monthly for 6 months of monitoring.

Aim

To determine whether the dose (frequency and duration) of phone calls in an 18 month structured telephone support intervention, following a diabetes prevention program, influenced health outcomes.

Methods

GGT DPP (12 months) Telephone follow-up (18 months)

- Semi-structured telephone interviews by specially trained nurses to reinforce lifestyle changes and review personal lifestyle goals monthly for 6 months, then bimonthly to 18 months.

- Sample size n=66.

- Anthropometric (blood pressure, height, weight, waist and hip) and clinical measurements (lipid profile, fasting plasma glucose and 2hr OGTT) were performed.

- General and mental health were assessed via questionnaires.

- Statistical analyses were performed with PASW (SPSS) Statistics 17. Mean measurements (lipids profile, fasting plasma glucose and 2hr OGTT) were calculated with 95% confidence intervals (CI). Change in outcomes (12-30 months) calculated, with 95% confidence intervals (CI).

- Number of telephone calls participants received significantly associated with changes in 2hr-OGTT, triglycerides, HADS-D, and the SF-36v2 measures of PF, RP, and SF-36v2 measures of MH.

- Mean number of telephone calls = 7.5. Mean duration of calls = 20 minutes.

- Significant changes between 12 and 30 months for Fasting Plasma Glucose ↑ and triglycerides ↓.

- Number of telephone calls participants received significantly associated with change in 2hr-OGTT, triglycerides, HADS-D, and the SF-36v2 measures of PF, RP, MH, and both composite scores.

- Participants having more telephone calls tended to have the most beneficial changes in physical health outcomes (SF-36v2) and the most detrimental changes in 2hr-OGTT, HADS-D, and mental health outcomes (SF-36v2).

- Mean duration of calls was not independently associated with changes in outcome measures.

Discussion

The dose of telephone support study has demonstrated inconsistent outcomes. Participants with poorer outcomes may have felt they needed more help to achieve their goals. Conversely those who had worse physical functioning for example, may have found no added benefit in accepting additional calls.

The structured nature of interviews in the intervention reduced the likelihood of variation in the content of the telephone conversation impacting on results.

Implications for policy, delivery or practice

Compared with diabetes management, the use of telephone support for long term T2DM risk reduction requires further investigation. Mental health, physical function and physical limitations of people receiving the telephone support are the areas of particular interest.

References


Finders and Deakin Universities
Funded by the Australian Government Department of Health and Ageing