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Introduction

- People with Type 2 diabetes mellitus (T2DM) need support and teaching to improve their health outcomes and prevent costly nerve, kidney, heart and blood vessels complications¹.
- In this era of COVID-19 pandemic, where individuals with diabetes are vulnerable, it is incumbent to explore the effectiveness of avenues for remote continual education and support.
- **Aim of the review:** Evaluate the impact of direct clinician telephone interventions compared to usual care on glycaeted haemoglobin (HbA1c) and self-management guidelines among individuals living with T2DM.

Methods

- Electronic databases such as MEDLINE, OAHNL, Embase, PsycINFO, Web of Science, and the Cochrane Library were searched from January 2002 to January 2020 (PROSPERO ID: CRD42020167801).
- Eligibility criteria included RCTs of telephone or mobile phone call interventions involving diabetes self-management education and support delivered by clinicians for adults with T2DM aged at least 18 years reporting changes in glycaeted haemoglobin (HbA1c) and adherence to self-management practices outcomes.
- Review authors independently assessed risk of bias², extracted relevant data from included studies and pooled HbA1c changes presented as forest plots.

Results

- 15 studies provided adequate information on 3612 participants for meta-analysis.
- Interventionists: certified diabetes educators, nurses, physicians, pharmacists, and dieticians delivered direct telephone support sessions in addition to routine clinics.
- Control group received the usual care (routine clinics).
- Risk of bias was generally low across the trials. Performance bias is ranked high due to the impossibility of blinding human telephone interventions (Figure C).
- Overall, telephone interventions at a median follow-up duration of 9 months led to a mean HbA1c change of -0.51% (95% CI: -0.66 to -0.35; P<0.00001) (Figure A).
- Sub-group analysis: highly intensive frequency of at least once a week clinician calls over 3 to 4 months showed greater mean HbA1c reduction of -0.75% (95% CI: -1.14 to -0.36; P=0.0002) in favour of the intervention (Figure B) while low intensive monthly calls for 12 months yielded a lower effect of -0.43% (95% CI: -0.64 to -0.22; P=0.0005).
- Telephone group had statistically significant improvements in self-care activities (healthy diet, physical activity, medication, blood glucose monitoring and foot care adherence) than the usual care group across most of the studies.

Conclusions

- The meta-analysis shows that telephone or mobile phone call interventions providing continuing education and support delivered intensively can promote glycaemic control and self-management among adults with T2DM.
- It is imperative for policymakers to consider these remote avenues in achieving better diabetes outcomes.

References

further.

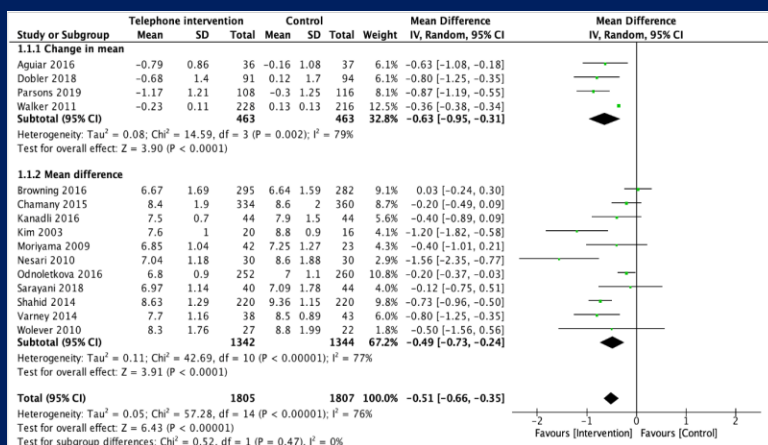


Figure A: Forest plot showing the pooled results from HbA1c comparison at follow-up between intervention and control

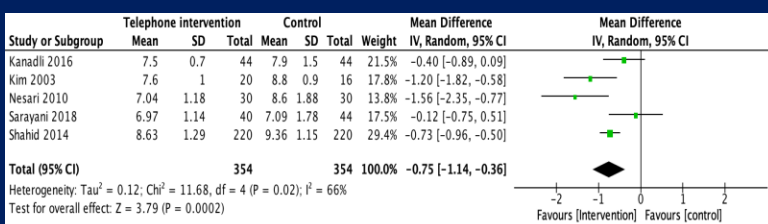


Figure B: Forest plot of pooled results from studies delivering high call frequencies

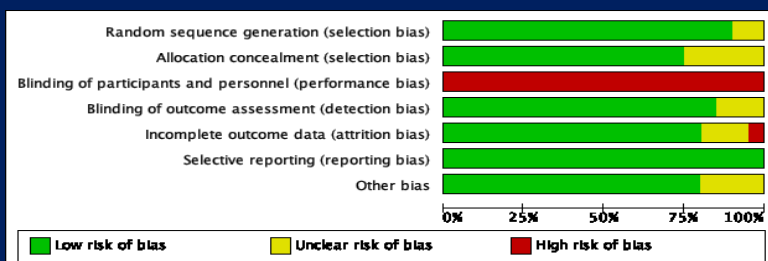


Figure C: Review authors' judgements about each risk of bias item presented as percentages across all included studies