

Interventions to Improve Adherence to Recommended Diabetic Retinopathy Screening in Adult Patients with Diabetes Mellitus: A Scoping Review

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Purpose

The goal of this scoping review is to systematically evaluate the effectiveness of primary care providers employing strategies to increase compliance with recommended annual eye exams among adult patients with diabetes mellitus type II.

This scoping review:

- Examines various strategies implemented in the primary care setting to help patients adhere to diabetic retinopathy screenings.
- Examines if these strategies decrease the number of patients who experience vision-threatening diabetic retinopathy.

If evidence suggests that primary care providers can have a significant positive impact on the rate of patients developing diabetic retinopathy, it would indicate that more research on the topic could be valuable.

Methods

PICOT: Are patients more likely to attend the recommended eye screenings if primary care providers employ strategies to increase the number of patients having diabetic retinopathy eye exams?

To address this question, a literature review was performed between September 2021 and January 2022 to collect studies evaluating interventions to increase adherence to diabetic retinopathy screenings.

PubMed, SCOPUS, and CINAHL were searched using MeSH with the following keywords, as well as others:

- diabetic retinopathies
- primary healthcare
- diabetic retinopathy screening

Fifteen articles resulted from this search, then a rapid critical appraisal and in-depth discussion of these articles yielded a final selection of seven articles.

Article number 7	
Title	Effect of a tailored leaflet to promote diabetic retinopathy screening among young adults with type 2 diabetes: a randomized controlled trial
Authors	Lake AJ, Hateley-Browne B, Rees G, Speight J
Year	2020
Country of origin	Australia
Main Purpose	"We aimed to test the effect of a tailored, evidence-based leaflet (with before or change intervention (leaflet) or self-reported screening uptake, and previously identified socio-cognitive determinants of retinal screening."
Study population and sample size	18-39 years w/ diabetes mellitus type 2, 101 at end of study (128 total)
Methodology/Methods (article type)	Randomized control trial
Level of Evidence	II
Relevance details	An informational leaflet was made to give to eligible participants. Another group was given usual care, without the leaflet. The groups filled out surveys at the end of the trial about their concerns.
Key findings relating to the question	"This study indicates that a well-designed eye health and retinal screening promotion leaflet (on common knowledge of diabetic retinopathy, on requesting screening practices). Among the unengaged intervention group participants, there was a trend toward higher screening uptake than among those in the control (no leaflet) group (n = 1, 87% and n = 1, 20%, respectively). However, insufficient numbers of unengaged participants provided post-intervention data (n = 2, 11 in each arm) and the study was underpowered to detect a meaningful change in the primary outcome results."

Example of data extraction process

Background

- Diabetic retinopathy is the leading cause of blindness in adults.
- Current guidelines recommend that all patients with diabetes mellitus type II have a diabetic retinopathy screening upon diagnosis of diabetes mellitus and then annually, but the adherence rate is only approximately 60%.
- Without proper screening, patients are more likely to develop vision-threatening diabetic eye complications which may not be treatable.
- It is the responsibility of primary care providers to help patients achieve their best health through preventative care services and the management of chronic illness.

Results

The articles included consisted of

- 4 randomized controlled trials
- 2 clinical trials
- 1 systematic review

Level of Evidence	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
I Systematic review		X		X		X		X								4 (1)
II Single randomized control trials			X		X				X					X	X	5 (4)
V Experimental and non-research evidence	X															1
VIII Clinical trials							X			X	X	X	X			5 (2)
Total number of selected articles																7

Results of the rapid critical appraisal process

The most effective methods to increase the rate of diabetic retinopathy screenings are:

- Behavior change techniques
- Improving general diabetes mellitus care
- Providing evidence-based informational leaflets about diabetic retinopathy to patients
- Incorporating diabetic retinopathy screening into primary care appointments
- Adding a point-of-care reminder to the electronic medical record

Interventions that did not improve adherence were financial incentives and printed reminders to the primary care providers.

Implications for Practice

The results of this scoping review highlight the difficulty of increasing the rate at which primary care providers remind patients to screen for diabetic retinopathy and increasing attendance of patients to diabetic retinopathy screenings.

Promising results indicate that interventions can be implemented to encourage improvement.

Primary care providers can have a significant positive impact on the rate of patients developing diabetic retinopathy, and this finding suggests that more research on the topic is valuable.

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