INPLASY

Ways of measuring peripheral neuropathy severity and its association with retinopathy in patients with diabetes: a scoping review protocol

Corresponding author:
Aristomenis Kossioris

akossioris@gmail.com

Author Affiliation:
General Hospital of Athens, Greece, "G. Gennimatas".

Kossioris, A; Kandarakis, S; Doumazos, S; Petrou, P.

ADMINISTRATIVE INFORMATION

INTRODUCTION

Review question / Objective The role of different ways of measuring the severity of peripheral neuropathy with its association with retinopathy.

Background Poor glycaemic control in people with diabetes can lead to microvascular complications such as diabetic peripheral neuropathy (DPN), nephropathy and retinopathy. Recent advances in elucidating the pathogenetic mechanisms of DPN and improvements in clinical trial design have reinvigorated the potential for translating compounds developed in preclinical studies into new therapeutic agents. A systematic review of the literature on the methods of measuring the severity of DPN and the association of the results of each method with diabetic retinopathy would contribute positively to above developments.

Rationale The systematic investigation of the literature regarding the methods of measuring the severity of DPN and the association of the results of each method with diabetic retinopathy would contribute positively to the efforts to improve the methods/means of measuring neuropathy and predicting retinopathy, as well as, consequently, other microvascular complications of diabetes.

METHODS

Strategy of data synthesis To identify studies/ book chapters that are original studies suitable for the proposed scoping review, the following databases will be searched:
• PubMed
• Embase
• Scopus
• Web of Science
• CINAHL, and
• ProQuest.

ClinicalTrials.gov registry will also be searched. The search strategy will include the following Boolean sequence with the following terms and operators: ("retinopathy" OR "eye disease" OR "eye disease" OR "maculopathy" OR "retinal" OR "macular") AND "neuropathy" and for the title/abstract or abstract only "severity" AND ("diabetes" OR "diabetic"). Whether the terms with the operators are searched for the title/abstract or only for the abstract will depend on the search capabilities provided by the database or the clinical trials registry.

Eligibility criteria The population will include patients with type 1 or 2 diabetes, without age restriction, with diagnosed peripheral neuropathy, as well as with diagnosed retinopathy of any type.

Source of evidence screening and selection To achieve the screening of publications by the two reviewers (AK and PP), first the titles/abstracts of the records resulting from the databases/registries will be checked to exclude duplicate records, as well as records that appear multiple times in the results of the databases/registries. The titles/abstracts of the publications will then be checked to exclude those that are reviews. Then, after checking also the titles/abstracts, those records that are publications in a language other than English will be excluded and, finally, the remaining records that will be left will be checked for their full text to determine whether they are relevant to the topic/question of the proposed scoping review.

If there is disagreement during the screening process about whether to include a publication, a third reviewer will be consulted, whose name will be mentioned in the ScR publication. The screening process will be detailed in the article of the proposed scoping review, as well as an illustration will be provided that will capture the process with a flowchart.

Data management From the yielded articles based on the search strategy and screening process mentioned in the "Relevant literature identification" section, the following data will be extracted:
• The name(s) of the authors
• The publication's country of origin (based on the first author)
• The research design
• The quality of the sample (the study's subjects)
• The peripheral neuropathy assessment method
• The type of nerve fibers targeted by the assessment method
• The way the severity of peripheral neuropathy is classified (if mentioned in the publication)
• The way of associating with retinopathy, and

• The way of classifying the retinopathy severity (if reported in the publication).
The extracted data will be passed to a .xlsx spreadsheet.

Reporting results / Analysis of the evidence The results of the proposed scoping review will be reported narratively.

Presentation of the results The results of the proposed scoping review will be presented in aggregate based on the data for extraction listed above, in a table.

Language restriction Articles or book chapters will be excluded if they are not written in English.

Country(ies) involved Greece.

Other relevant information Granted that there was not any active subscription to the Embase database from the universities in Greece, the country that the proposed scoping review will be conducted/completed, during the planning/writing of the present protocol, the help of Yingting Zhang, MLS, AHIP-D, Robert Wood Johnson Library of the Health Sciences, Rutgers University, New Jersey, USA, was requested and accepted. Ms. Yingting Zhang did the search on the Embase database.

Keywords Peripheral neuropathy, Severity, Retinopathy, Patients with diabetes, Scoping review.

Dissemination plans This scoping review protocol will be submitted for publication in a peer-reviewed journal.

Contributions of each author
Author 1 - Aristomenis Kossioris - Author 1, wrote the section of the topic under review background, part of the methodology, as well as did a preliminary search of databases and protocol registers for existing publications on the topic under investigation.
Email: akossioris@gmail.com
Affiliation: General Hospital of Athens, Greece, "G. Gennimatas".
Author 2 - Stylianos Kandarakis - Stylianos Kandarakis wrote part of the methods section, wrote part of the discussion, as well as made syntactic and grammatical corrections.
Email: s.kandarakis@gmail.com
Affiliation: First Ophthalmology Clinic, Medical School, National and Kapodistrian University of Athens, Athens, Greece.

Author 3 - Stylianos Kandarakis - Spyridon Doumazos wrote the limitations section, as well as made syntactic and grammatical corrections.
Affiliation: First Ophthalmology Clinic, Medical School, National and Kapodistrian University of Athens, Athens, Greece.
Author 4 - Petros Petrou - Author 4, contributed to the planning of the search strategy, as well as having general supervision of the project.
Email: petroup@uoa.gr