

The use of hyperbaric oxygen therapy in the treatment of diabetic retinopathy; a systematic review

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Introduction

Diabetes causes many complications among them diabetic retinopathy is very common, and it can lead to blindness. Various techniques are used for the treatment of diabetic retinopathy, but they are expensive and have serious side effects.

Objective

The objective of this systemic review is to focus on different evidence available related to the use of hyperbaric oxygen therapy in the treatment of diabetic retinopathy.

Discussion

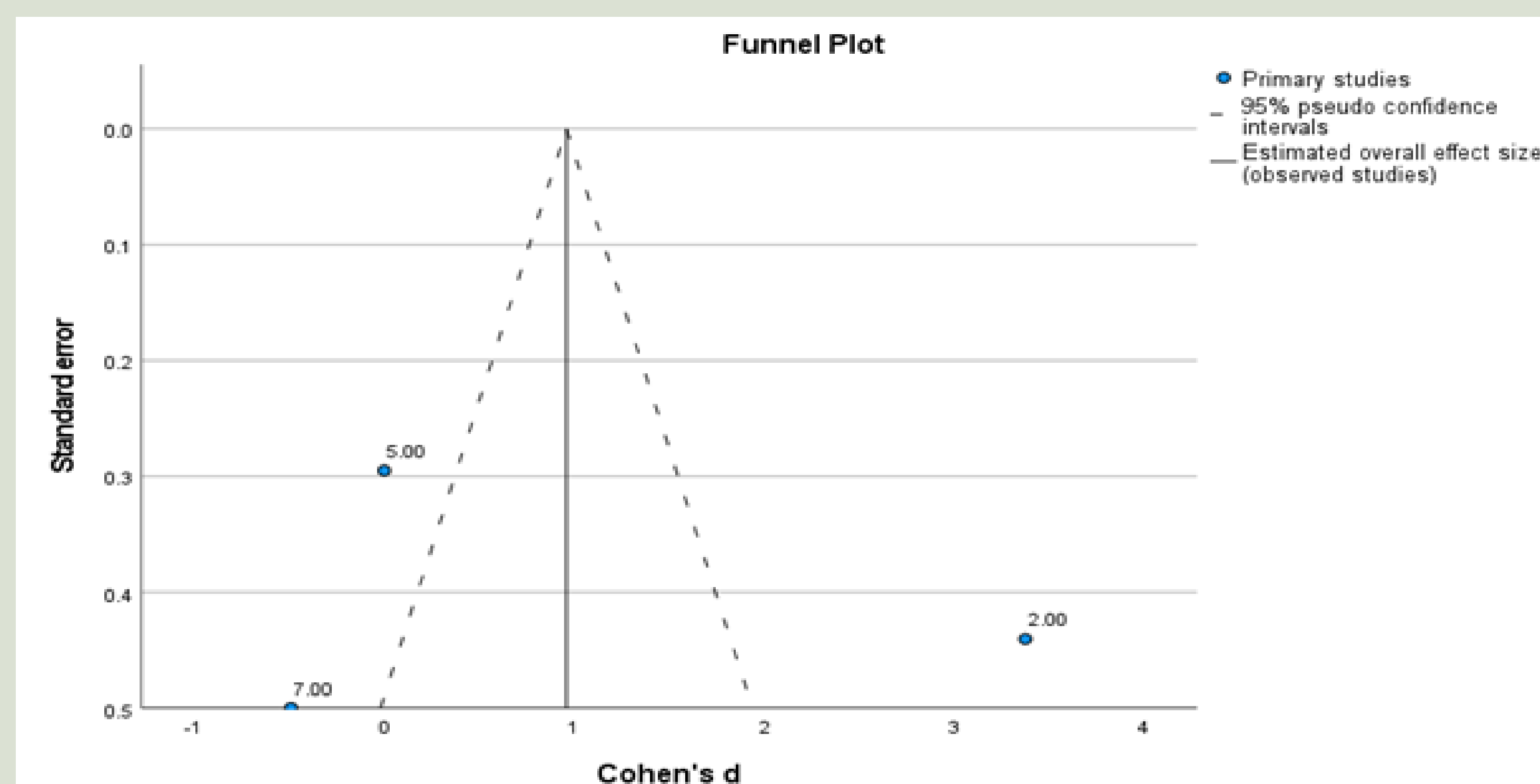
As compared to the systemic review conducted by McMonnies CW et al in 2015 states that HBOT causes ocular complications like diabetic retinopathy, but this systemic review shows that the majority of the studies are in favor of the usage of HBOT in the treatment of diabetic retinopathy and shows effective and positive findings while only one study conducted by Okamoto N et al showed HBOT leads to diabetic retinopathy while others show HBOT neither progress nor regress diabetic retinopathy.

Materials and methods

PubMed/Medline, Science Direct, Web of Science, and Scopus databases were used to find the research done related to the use of hyperbaric oxygen therapy in the treatment of diabetic retinopathy up to 2022. Participants both humans and animals were included. Humans greater than or equal to the age of 18, diabetic, having diabetic foot ulcer, administration of hyperbaric oxygen therapy, and comparison of treatment group with another standard group who either received no treatment or basic treatment

Results

Maalej et al and Chang et al, Feng X et al, Freilich DB et al showed Hyperbaric oxygen therapy was effective in the treatment of diabetic retinopathy hence diabetic retinopathy showed regression while Sellman et al, Kaldırım H et al, Kaldırım H et al showed that hyperbaric oxygen therapy was not effective in the treatment of diabetic retinopathy and diabetic retinopathy neither showed progression nor showed regression. Okamoto N et al showed hyperbaric oxygen therapy can increase the progression of diabetic retinopathy this systemic review includes 8 studies. The majority of studies included in the systemic review showed that HBOT is effective in the treatment of diabetic retinopathy but still some studies oppose it. Hence the use of HBOT in the treatment of diabetic retinopathy is still controversial.



Conclusion

The use of hyperbaric therapy in the treatment of diabetic retinopathy is controversial, further studies are needed in this regard.

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