

Cataracts are the leading cause of blindness worldwide, and although cataract surgery is a safe and effective treatment, it is not very accessible to those living in financially or geographically disadvantaged regions. This inaccessibility is due to a lack of trained surgeons, costs of procedure, transportation, lack of facilities or equipment, and other such factors. Therefore, it is important to assess the potential of alternative treatment options that can reduce or reverse cataracts. This literature review evaluates the efficacy of four proposed pharmacological compounds as non-surgical treatment options; Oxysterol VP1-001, Lanosterol, N-acetylcarnosine, and Fidarestat. Oxysterol VP1-001 and Lanosterol have been shown to restore affected lens clarity in animal trials but require further testing in humans. N-acetylcarnosine has been studied in humans but may have adverse effects when applied over a long period. Fidarestat may be most effective at treating diabetic cataracts by preventing sorbitol-induced oxidative stress. More research is needed to assess the efficacy and safety in treating cataracts in humans before these can be considered alternatives to surgery. It is unlikely that any pharmacological treatment will be as effective as cataract surgery, but they may still be useful as a partial solution to those who lack access to better treatment. If future research pursues these gaps to ensure efficacy of these treatments, it could significantly reduce the worldwide burden of cataracts.