Conclusions, Future Scope and Limitations

Conclusions
Bioflavonoids (Hesperetin and Quercetin) have shown potential antioxidant, antiinflammatory, antiapoptotic and neuroprotective effects in diabetic rat retina. Bioflavonoids have also shown protective effects on breakdown of blood retinal barrier, ganglion cell loss, glial cell edema and pericyte death. Therefore, based on the results it can be concluded that bioflavonoids (Hesperetin and Quercetin) may be prescribed as supplements in the prescribed dosage for the prevention of retinal neurovascular damage in diabetic patients.

Similarly, polyherbal combination has shown potential antioxidant, antiinflammatory and antiapoptotic effects in diabetic rat retina. Polyherbal combination showed protective effects against breakdown of blood retinal barrier in diabetic rats. Herbals combinations are considered safe and effective since ages. Therefore, polyherbal combination may be used as therapeutic intervention for the prevention of DR in patients. However, clinical trials are warranted before it can be clinically used.

Future Scope
When ophthalmologist confirms the diagnosis of DR, the contemporary pharmacotherapy will only postpone the inevitable cascade of degenerative retinal pathology. Fortunately, DR is a nutritional responsive disorder in both background and proliferative stages. This means that patients don’t have to wait for the shoe to drop. Therefore, bioflavonoids could be very beneficial in preventing DR if taken regularly. Moreover, bioflavonoids can be taken without any harm in all age groups.

Limitations
In the present study, we have found preventive effect of bioflavonoids on photoreceptor degeneration in diabetic rats. However, exact etiology and mechanisms are still unclear,
which can be investigated. Similarly, we have found that bioflavonoids help in preventing muller endfoot edema by inhibiting AQP4 expression. But molecular mechanisms are not fully understood. The effect of bioflavonoids and herbal drugs were evaluated by orally feeding rats, but it is unclear what is the amount of drug reaching at retinal level. This could not be evaluated due to tissue limitations. In the present study, we evaluated the effects of bioflavonoids only in STZ-induced rat model. However, the efficacy can be further evaluated in other animal models too. Most important limitation of this study is that it is preventive study.