OBJECTIVES

The objectives of the present study are:

- To study the effect of supplementation of omega-3 PUFA rich fish oil and flaxseed oil in low dose and high dose on learning and memory, oxidative, antioxidant and inflammatory status in streptozotocin (STZ) induced diabetic rats.
- To study the synergistic effect of supplementation of omega-3 PUFA rich fish oil and flaxseed oil in combination with vitamin C and vitamin B₁₂ on learning and memory, oxidative, antioxidant and inflammatory status in STZ induced diabetic rats.
- To compare the effects of omega-3 PUFA from animal source and plant source on STZ induced diabetic rats.
- To compare the different dose effects of omega-3 PUFA rich fish oil and flaxseed oil on STZ induced diabetic rats.
- To correlate the association of dietary supplementation and cognition in STZ induced diabetic rats.

2.1. Significance of the study

Individuals suffering from diabetes induced cognitive dysfunction and having low habitual intake of omega-3 PUFA may benefit most from the outcome of the study. Consumption of optimum quantity of omega-3 PUFA rich food might help them in prevention and treatment of cognitive dysfunction in diabetes.

2.2. Scope of the study

The current study was conducted to explore the neuroprotective effects of omega-3 PUFA rich food either from marine source or plant source. This study was an attempt to recommend the optimal dietary dosage to prevent the cognitive dysfunction in diabetic patients.