8.0 APPRAISAL

8.1 SUMMARY OF THE FINDINGS

- Yoga was found to reduce DNA damage among T2D subjects
- Effect of yoga was found to be mediated by reducing oxidative DNA damage and enhancing DNA repair
- Yoga improved anthropometric, biochemical, and molecular parameters in T2D patients
- Yoga was found to be useful in the management of T2D condition as an adjunct therapy

8.2 CONCLUSIONS

The findings of the study demonstrate that the beneficial effect of yoga on DNA damage in T2D subjects was found to be primarily mediated by mitigation of oxidative DNA damage and enhanced DNA repair. In general, yoga was found to be a potent adjunct therapy in the management of T2D by way of its efficacy seen on anthropometric, biochemical, and molecular markers in T2D patients. But, generalization and interpretation of the study results across the population should be done cautiously in the light of socio-cultural, ethnic, and genetic differences.

8.3 IMPLICATIONS OF THE STUDY

Yoga practice involving specific postures and breathing techniques appears to have beneficial effects not only on biochemical aspects but also on a deeper level like oxidative stress and integrity of DNA in T2D conditions.

8.4 APPLICATIONS OF THE STUDY

The potential, cost-effective and relatively safe yoga-based lifestyle modification, as an adjunct therapeutic approach, based on scientific evidence should be harnessed and integrated with other treatment modalities in the management of type-2 diabetes for a better outcome.

8.5 STRENGTH OF THE STUDY

To our understanding, this is the first study to elucidate yoga's mechanism of action in T2D related DNA damage and employ statistical mediation analysis for the same. The study also followed an RCT design along with assessments on anthropometric, biochemical, and specific molecular markers.

8.6 LIMITATIONS OF THE STUDY

As for limitations, the study had dropouts, a relatively smaller sample size and duration, and did not assess diet, sleep quality, and stress levels of participants that could have an impact on physiology. Though the study assessed OGG1 activity for DNA repair, DNA damage response is a complex process involving many players.

8.7 SUGGESTIONS FOR FUTURE STUDIES

Future studies involving a larger sample size for a longer duration with broader measures related to DNA damage and repair, psychological assessments like stress, anxiety, and depression; quality-of-life, diet and sleep quality, in a diverse population may help us gain a deeper understanding of the workings of yoga in T2D conditions.