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certificate of attendance

This is to certify that:	**Nirodhi Dasanayaka**
Has virtually attended:	**Healthy Ageing 2022 - VIRTUAL event**
During the dates:	**25 - 27 May 2022**
Scientific Programme Committee:	**Linda Partridge** **Max Planck Institute for Biology of Ageing, Germany**
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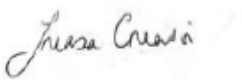

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Effects of long-term meditation practice on telomere length, plasma telomerase level and expression profiles of *hTERT and hTR* genes-A case-control study

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Meditation is considered as one of the safest practices in Complementary and Alternative Medicine as it effectively balances physical, emotional, and psychological states of an individual. It has also been recognised as a healthy lifestyle factor that affects telomere regulation. Telomeres are eukaryotic chromosomal end caps comprising TTAGGGs simple tandem DNA repeats where it reduces with each cell division and accelerates the cellular aging. Telomere length maintains by the enzyme telomerase and telomerase activity is mainly depend on the two genes *hTERT* and *hTR*. One such area of expanding interest is the association of meditation with cellular aging where the length of the telomeres may vary due to the effects of meditation. Hence, this case-control study aimed to compare the relative telomere length (TL), plasma telomerase level (TE), and expression of hTERT and hTR genes between long-term skilled meditators and non-meditators. Thirty long-term and skilled meditators were recruited from meditation centers in different parts of the island following a two-tier screening process of 70 eligible participants and 30 age and gender matched healthy non-meditators were recruited from the community. TL was measured via quantitative polymerase chain reaction using Absolute Human Telomere qPCR Assay kit and TE was measured using Human TE (Telomerase) Enzyme-linked Immunosorbant Assay (ELISA) kit. Gene expression assay was performed via Reverse Transcriptase PCR for the *hTERT* and *hTR* genes considering *G3PDH* gene as an internal control. Relative gene expression was determined using the $2^{-\Delta\Delta CT}$ method. Independent sample t-test was used to compare the mean TL, TE, and relative gene expressions between meditators and controls. Multiple regression analysis was used to forecast if *hTR* and *hTERT* gene expression significantly predicted the TE. Nineteen of the 30 participants (63.34%) in each group were male and the average age (± SD) of participants was 43.83±9.92 years. Mean duration of the meditation practice of the meditators was 6.80±3.27 years and they had meditated for a mean period of 5.82±3.45 hours per day. TL (p=0.006) and TE (p=0.001) were significantly higher in meditators compared to controls. In addition, a significant increase in the *hTERT* (FC=0.17, p=0.041) and *hTR* (FC=0.19, p=0.0428) gene expression were found

in meditators compared to controls. Regression analysis indicated that *hTERT* (p=0.019) and *hTR* (p=0.031) genes expression significantly predicted the TE. The findings of this study suggest that long-term meditation practice have potentially beneficial effects on the TL, TE and the gene expression of hTERT and hTR genes and thus, delay cellular ageing.