PP 031

Determination of blood mercury level in patients receiving *Sinna Sivappu Maathirai* a Siddha herbo-mineral drug using Atomic Absorption Spectrometry

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Introduction: Sinna Sivappu Maathirai (SSM) is a compound herbo-mineral drug containing red sulphide of mercury prescribed in respiratory symptoms. It has been used (15 – 22 kg/year) widely in Siddha hospitals in Northern part of Sri Lanka. Trusts in the potency of herbo-mineral than herbal alone, and gradual unobtainability of herbals make attention for utilizing minerals in drug preparation in Siddha Medicine. But WHO said that traditional medicine required full safety studies, even if manufactured according to classical texts. According to that, mercury determination was not done in SSM so far.

Objectives: The objective of this study is to determine the blood Mercury level in patients receiving SSM

Methods: This descriptive study was carried out at Siddha Teaching Hospital, departments of Biochemistry and Medicine, Faculty of Medicine, University of Jaffna and North Water supply and Drainage Board from January 2017 to 2019. Patients who were prescribed with SSM for the treatment of respiratory symptoms at Siddha Teaching Hospital enrolled in this study. The blood mercury level was detected at the baseline, end of 1st and 2nd week of follow-up. Data was analysed by SPSS-22.

Results: Among the study population, 64% (41) of patients were males. 56% (35) were in the age group of 18 to 38 and 69 % (44) were married. Hundred percentage (64) with cough; 28% (18) breathing difficulties, 16% (10) chest pain and 6% (4) fever were the symptoms of patients. Mean values of blood mercury on baseline, end of 1st and 2nd week were mean 0.35 (SD=0.64), 0.22 (SD=0.31) and 0.30 (SD=0.40) accordingly. Mean difference and p values of blood mercury between baseline and end of 1st and 2nd week were 0.13 (SD=0.6, p=0.09) 0.05 (SD=0.78, p=0.58) respectively. It was shown that there were no significant differences ($p \geq 0.05$) in the mean differences between the assessment levels. This study tally with a previous study which showed that the level of $Hg2+$ was very less in SSM than its raw material before preparation.

Conclusions: The results show that blood mercury level in patients who receiving SSM was not increased.