**POSTERS**

**SECTION A**

**201/A**

## Study on temperature measurements in paediatric age group

R A Abeysekera[1], U N Bandara[1]*, N T Medagoda[1], R K Nayakarathna[1] and A A J Rajaratne[1]
[1]*Department of Physiology, Faculty of Medicine, University of Peradeniya.*

In general clinical practice and in ward situations for the measurement of core temperature oral or axillary sites are used in children. Infrared ear drum thermometers are used in developed countries while it is not commonly used in underdeveloped countries. The objective of our study was to compare the accuracy of the infrared ear drum thermometer with the axillary and oral thermometers.

Oral, axillary and ear drum temperature measurements were made on 34 children of age between five and twelve (5 -12) years at the same instance using a clinical mercury thermometer for oral and axillary while infrared thermometer was used to measure the ear drum temperature. Fever was not considered as an exclusion criterion. Minitab 14.1 statistical programme was used to test correlation, descriptive statistics and to perform paired t – test.

Mean temperature of right and left ear was 96.85 $^{o}$F (SD=0.68), 96.79 $^{o}$F (SD=0.75) respectively and there was no significant difference between these two values ($p > 0.5$). Mean temperature of axilla was 97.84 $^{o}$ F and mean oral temperature was 98.64 $^{o}$ F. Mean value of the temperature of both ears was 96.82$^{o}$F. Mean difference between ear mean and oral was 1.82 $^{o}$F (SE=0.09), this difference was statistically significant ($P < 0.0001$). Mean difference between ear mean and axilla was 1.02 $^{o}$F (SD 0.63) and this difference was statistically significant ( $P < 0.001$).There was a statistically significant correlation between mean temperatures of ear and axilla ($r= 0.629$, $p<0.001$), and also between ear and oral temperature means ($r= 0.71$, $p<0.001$).

Results indicate that both oral and axillary temperatures are well correlated with ear drum temperature. However, both readings are significantly different from ear drum temperature. So that one has to take this fact into account when infrared thermometers are used. Our data suggests that when ear drum temperature measurements are made, one has to add on average 1.82 $^{o}$ F to obtain an equivalent value for the oral temperature.

*upendranawarathna@yahoo.co.uk Tel: 081-2396290