

## MINI ORAL 7 [ID#96]

### **A Prospective Study to Assess the Value of Liquid Chromatography-Tandem Mass Spectrometry in the Management of Paediatric Poisoning at Red Cross War Memorial Children's Hospital, Cape Town**

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**INTRODUCTION:** There is a paucity of data on the role of investigations, specifically, liquid chromatography-tandem mass spectrometry (MS), in management of paediatric poisoning in low-and-middle-income countries.

**OBJECTIVE:** To assess the value of MS in the management of paediatric poisoning at Red Cross War Memorial Children's Hospital (RCWMCH).

**METHODS:** 152 children admitted with suspected poisoning between 1 January 2017 and 31 December 2017, were recruited. All patients had a urine and/or blood sample sent for MS toxicology; 73 had routine toxicology: 31 had point-of-care urine drug screen (POC-UDS), 27 had National Health Laboratory Services (NHLS) tests and 15 had both POC-UDS & NHLS tests. Routine toxicology was done at the treating clinician's discretion. Data collected included demographics, clinical features, investigations, management and outcome and these were described using conventional descriptive and inferential statistics.

**RESULTS:** Of the 152 children, with a median age of 39 (IQR 25 -61) months, 93 (61%) presented with a history of ingesting a known substance, 20 (13%) reported an unknown substance and 39(26%) had no history of ingestion. MS was positive in 62% (24/39) of the patients who had no history of ingestion, 35% (7/20) in those who ingested an unknown substance and 45% (42/93) of those who ingested a known substance. In this last group, MS identified the known substance in 27/42 (64%) cases but found a different substance in 15/42 (36%) cases. MS was able to detect multiple drugs in 37 children. No children died. Individualized social interventions were instituted in all patients with reported ingestion and in those with MS-confirmed poisoning.

**CONCLUSION:** MS is an expensive test and should be used judiciously in managing paediatric poisoning; it is useful in identifying cases of occult poisoning, in patients who have ingested more than one toxin, and may be of use when targeted at child protection.