

TYGERBERG POISON INFORMATION CENTRE

ANNUAL REPORT

2018



24 hour Telephone Number: +27 861 555 777

Tygerberg Poison Information Centre (TPIC)
Division Clinical Pharmacology
Faculty of Medicine and Health Sciences
Stellenbosch University
Tygerberg Hospital
Tygerberg, Cape Town, 7505
South Africa

Personnel:

Director:

Ms Carine Marks

Staff:

Ms Cherylynn Wium

Ms Arina du Plessis

Part time consultants

Prof H Reuter

Dr E Decloedt

Dr V Pillay-Fuentes Lorente

Dr R Van Rensburg

Dr A Abulfathi

Dr N Van Hoving

Dr DJH Veale

Mrs J Jones

Mrs B Chisholm



0861 555 777



5 Medical Specialists
2 Clinical Pharmacology
registrars
4 Pharmacists
2 Medical scientists



Poison Information Helpline of the Western Cape

www.sun.ac.za/poisoncentre

toxicology@sun.ac.za

Background

The Poison Information Service was started in 1970 and eventually evolved into the Tygerberg Poison Information Centre (TPIC). The Centre is situated in the Division of Clinical Pharmacology, Faculty of Medicine and Health Sciences on the Tygerberg Campus of Stellenbosch University in close proximity to Tygerberg Hospital. The Centre provides a 24 hour 7 day a week consultant based service to medical professionals as well as the general public. Telephone enquiries are answered by toxicologists with a scientific or medical background. Two information data bases are used, namely: (i) Micromedex and (ii) AfriTox (which is maintained by Red Cross War Memorial Children's Hospital Poisons Information Service, Cape Town).

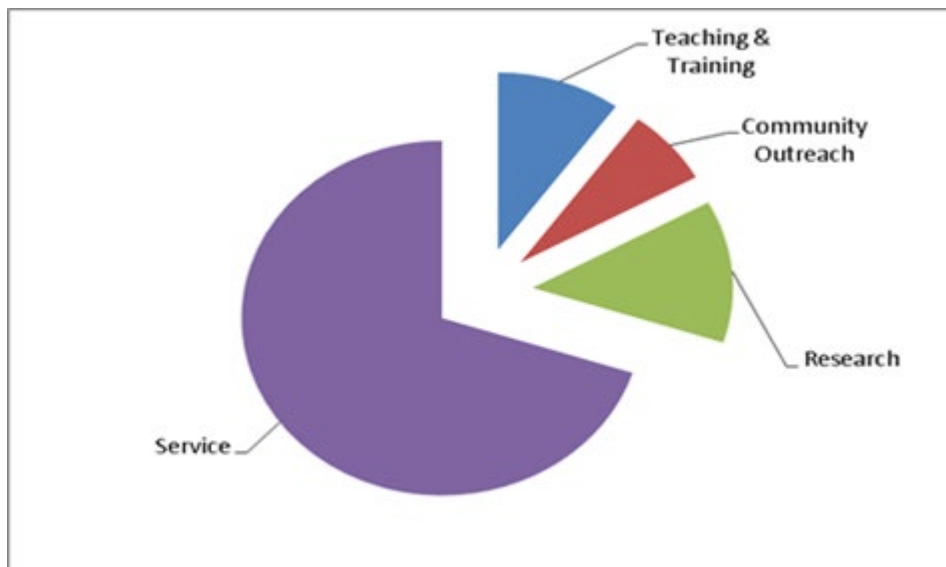
South Africa has three Poison Information Centres of which two are located in the Western Cape: the Red Cross Children's Hospital Poisons Information Centre and the Tygerberg Poisons Information Centre. The activities of the two units differ, but their telephone services overlap. Collectively the two centres have a small group of highly skilled staff with knowledge of poisonings which is unique on the African continent.

Due to important technological developments (telephonic and computing) the two centres combined their poisons telephone services and created a single poisons helpline serving the whole of South Africa. The Poisons Information Helpline (PIH) was initiated on 1 June 2015 and a dedicated telephone line with a single share call telephone number 0861 555 777 was introduced. Data from poisoning cases are entered in real-time, while a call is in progress, on a live server-based data system called Afritox Telelog. The Telelog system uses a FileMaker application, licensed through Apple Inc, and is set up for multiple users on a Microsoft platform. Users can be logged on simultaneously and can perform data entry or run reports at the same time.

Objective

The main objective of the Tygerberg Poisons Information Centre (TPIC) is to improve the outcome of poisoned patients by providing information on the diagnosis and treatment of poisoning to health care professionals and advising the general public on the management of exposures and thus reducing unnecessary use of medical facilities.

The functions of the TPIC



- Providing a comprehensive, consultant-based service, 24 hours a day, 7 days a week, serving both the health care professionals and the general public.
- Providing a system of toxicovigilance which serves to identify new hazards and the epidemiology of new forms of poisoning, national trends in poisoning and the associated vulnerable populations and risk factors.
- Dealing with issues relating to occupational and environmental toxicology and providing valuable forensic / medico-legal support.
- The training of medical doctors, pharmacists, pharmacist interns, paramedics and nurses on management of exposures to poisonous substances.
- Teaching toxicology to undergraduate and postgraduate medical students at the University of Stellenbosch, and supervising postgraduate research projects in toxicology.
- Community interaction which includes public education and information programmes on the prevention and immediate management of acute poisoning. The TPIC personnel regularly contributes to radio and television programmes, newspapers and magazines as well as participating in poisoning presentations to the general public.
- Routine ward rounds in Tygerberg Hospital's emergency wards. This enables us to compare the acute poisoning cases of Tygerberg Hospital admissions to the TPIC consultations. This information is used for research, toxicovigilance, poisoning prevention strategies, health service planning and to monitor toxicology regulatory compliance.

Other important functions:

- Presentation of research undertaken in the centre at national and international conferences.
- Publishing research findings in peer-reviewed journals.
- Research projects include
 - epidemiology of poisoning
 - biological toxin research on snake, spider and scorpion venoms and envenoming.
 - Health Professions Education in Toxicology

General Activities

Community outreach

- *Radio interviews:*
 - Radio Tygerberg: 21 February 2018. Spider bite. Arina du Plessis.
 - Radio Smile: 22 February 2018. Spider bite. Arina du Plessis.
- *Athlone News:* 28 February 2018. Spider bite. Arina du Plessis.
- *Southern Mail Newspaper.* 28 February 2018. Spider bite, Arina du Plessis.
- *Atlantis Sun Newspaper.* 1 March 2018. Spider bite, Arina du Plessis.
- RSG Radio interview: 14 March 2018. Nerve gas (Novichok, Polonium). Dr GJ Muller.
- Presenting to the Pharmaceutical Clinical Management Society (PTCMA), CJ Marks, Top 10 acute poisoning exposures in SA: Clinical effects and treatment - cost implications: Thursday 21st June 2018
- *WCG outreach program:* (Ricardo Speelman). Bites and Sting. Snake, spider and scorpion demonstrations. 26 June 2018. Ms CA Wium & Ms A du Plessis.
- *Jump Magazine:* 21 September 2018. General products in homes causing exposure and how to deal with it. CA Wium
- *WCG outreach program:* (Ricardo Speelman). Animals and shapes colour in competition. 2 October 2018. Ms CA Wium & Ms A du Plessis.
- Presenting to doctors and pharmacists @ Joe Talmud Lecture Series for CPD, 13 November 2018. CJ Marks

Teaching and Training

- Twelve Pharmacist interns received 2 weeks training in poisons centre work
- Clinical Pharmacology Registrar Toxicology Training:
 - Dr Veshni Pillay-Fuentes Lorente and Dr Nagwa: 02 January – 28 February 2018.
 - Dr Roland van Rensburg: 01 April – May 2018.
 - Dr Simon Adegboye: 1 July – November 2018.
- Emergency Medicine Registrar from Canada: Dr Kerry Walker completed a one month Toxicology training session in the TPIC. 22 January to 22 February 2017.
- Botswana University of Technology: Eight pre-graduate students. 4 May 2018
 - Scorpions and Scorpion stings in southern Africa.
 - Poison Information Helpline.
- Clinical Toxicology Registrar from Italy: Dr Amedeo Del Vecchio completed a three month Toxicology training session in the TPIC. 17 September – 14 December 2018.
- Emergency Medicine Registrars: Toxicology training, 31 July 2017.

Collaboration and Visits

- Dr Gerhard Verdoorn: Griffen Poison Centre. 2 February 2018.
- Johan Marais: African Snakebite Institute, Johannesburg. 18 May 2018.

Congresses and workshops

- BAD conference, Greyton. 23 – 25 March 2018
 - Venomous Animals and Poisonous Plants. Dr GJ Muller
- 10th Congress of Toxicology in Developing Countries (CTDC10). Metropol Palace Hotel, Belgrade, Serbia, 18 – 21 April 2018.
 - Workshop: Arachnids: Fallacies, Clinical Manifestations, Differential diagnosis and Management of spider bite and scorpion sting. B Megarbane, CA Wium, CE du Plessis, N Rhelm.
 - Poster: Poison Centre Service in South Africa. Cherylynn Wium Kate Balm, Linda Curling, Catharina du Plessis, Carine Marks, Farahnaz Mohamed, Cindy Stephen.
 - Poster: The Toxicology Society of South Africa (TOXSA). W Cordier, C Marks, C Wium, M Gulumian, M Vetten, R van Zyl, V Steenkamp, W van Rijssen.
 - Round Table Risk Assessment: CA Wium
- 38th International Congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT) in Bucharest Romania 22-25 May 2018.
 - Posters:
 - The epidemiology and severity of scorpion envenoming in South Africa: data from the Tygerberg Poisons Information Centre over a 10 year period. Marks Carine J, Muller Gert J, Sachno Dmitrij ,Reuter Helmuth,Wium Cherylynn A, Du Plessis Catharina E, Van Hoving Daniel J
 - Being Paracelsus – the toxicology educational card game. Marks Carine J, Wium Cherylynn A, Du Plessis Catharina E, Reuter Helmuth.
 - The African Network of Poison Control Centres (ANPCC) inauguration meeting. 17-21 September 2018, Algiers, Algeria. C Marks elected as member of the Steering Committee
- 1st Congress of Biomedical and Natural Sciences and Therapeutics. Spier, Stellenbosch. 7 – 10 October 2018.
 - Oral Presentation:
 - Being Paracelsus – the toxicology educational card game. Marks Carine J, Wium Cherylynn A, Du Plessis Catharina E, Reuter Helmuth.
 - Marine envenomations and poisonings telephonically managed by the Tygerberg Poisons Information Centre over 20 years. Marks CJ, Wium CA, Du Plessis CE, Reuter H, GJ Muller, van Hoving DJ.
 - The epidemiology of spider bites in South Africa from a poison centre perspective. Du Plessis CE, Reuter H.
 - The efficacy and safety of the Southern African Black widow spider antivenom. GJ Muller, CJ Marks, CE du Plessis, CA Wium.
 - Unique clinical effects of minor adder envenoming. CA Wium, CJ Marks, CE du Plessis, GJ Muller.
 - Posters:
 - Poison Centre Service in South Africa. Cherylynn Wium, Kate Balm, Linda Curling, Catharina du Plessis, Carine Marks, Farahnaz Mohamed, Cindy Stephen.
 - The epidemiology and severity of scorpion envenomation as processed by the Tygerberg Poison Information centre over a 10 year period. Marks Carine J, Muller Gert J, Sachno Dmitrij ,Reuter Helmuth,Wium Cherylynn A, Du Plessis Catharina E, Van Hoving Daniel J

- A retrospective review of paraquat exposures reported to a poison control centre in South Africa over a 3-year period. Marks CJ, Wium CA, Du Plessis CE.
- A retrospective review of sodium cacodylate exposures reported to a Poison Information Centre in South Africa over a 3-year period. Du Plessis CE, Wium CA, Marks CJ, Stephen C.
- AfriTox TeleLog: the development of a novel web-based data collection tool for poison centre call data in South Africa. C. Stephen, C Marks, C Wium, C Roberts, F Mohamed, K Balme, L Curling. S Leyser.
- The Toxicology Society of South Africa (TOXSA). W Cordier, C Marks, C Wium, M Gulumian, M Vetten, R van Zyl, V Steenkamp, W van Rijssen.

Academic Year Day

62nd Annual Academic Year Day, Faculty of Health Sciences, University of Stellenbosch, 29 August 2018 Tygerberg Campus

Oral Presentation:

- Unique clinical effects of minor adder envenoming. CA Wium, JM van Zyl, CJ Marks, CE du Plessis, GJ Muller

Posters:

- Poison Centre Service in South Africa. Cherylynn Wium, Kate Balm, Linda Curling, Catharina du Plessis, Carine Marks, Farahnaz Mohamed, Cindy Stephen.
- A descriptive analysis of scorpion envenomation as reported to a poison centre in South Africa over a 12 year period. Marks Carine J, Muller Gert J, Sachno Dmitrij, Reuter Helmuth, Wium Cherylynn A, Du Plessis Catharina E, Van Hoving Daniel J
- Being Paracelsus – the toxicology educational card game. Marks Carine J, Wium Cherylynn A, Du Plessis Catharina E, Reuter Helmuth.

Publications

- Van der Walt AJ, Muller GJ. Berg adder (*Bitis Atropos*) envenoming: an analysis of 14 cases. *Clin Toxicol* 2018 Dec 6:1-6. doi: 10.1080/15563650.2018.1499931.
- The burden of intentional self-poisoning on a district-level public Hospital in Cape Town, South Africa. Van Hoving DJ, Hunter LD, Gerber REJ, Lategan HJ, Marks CJ. *Afr J Emerg Med*. 2018 Sep;8(3):79-83. doi: 10.1016/j.afjem.2018.03.002. Epub 2018 May 5.

Tygerberg Hospital

Patients admitted to Tygerberg Hospital due to drug overdose or exposures to poisonous substances are followed up by the Poison Information Centre personnel on a weekly basis.

Poison Information Helpline of the Western Cape (PIHWC) Statistics for 2018.

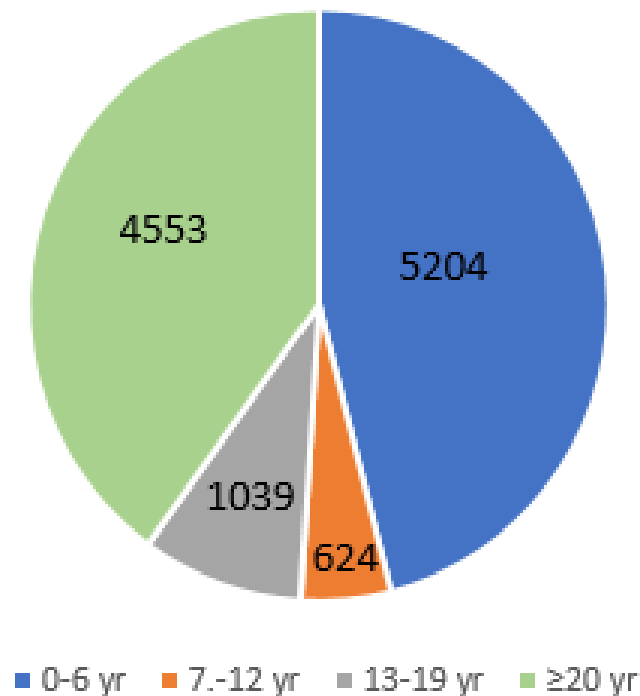
Summary

During 2018 the PIHWC received **11586** patient related calls and only **166** (1%) of these calls involved animals (99% involved humans) Calls were received from all 9 provinces in South Africa as well as from other countries particularly the neighboring countries such as Namibia, Botswana and Mozambique. **7975** (69%) calls were received from health care professionals and **3611** (31%) from the general public.

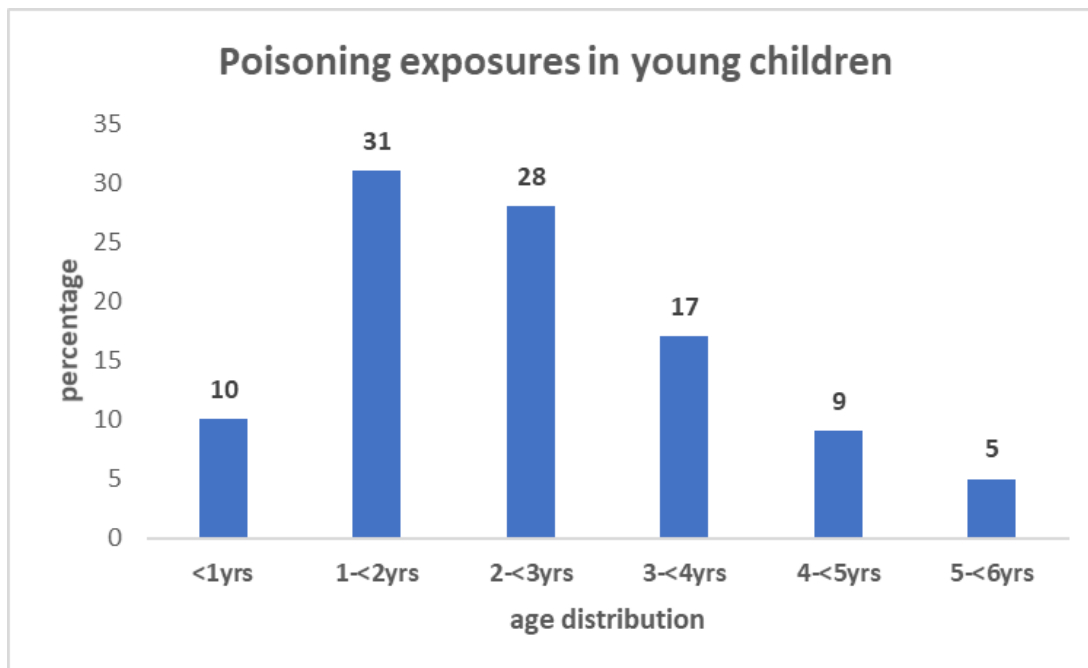
47% (5484) of exposures occurred in males, 51% (5856) in females and 2% (80) were of unknown gender.

Most exposures were in children, 0-6 years (n= 5204; 46%); followed by adults ≥ 20 years (n=4553; 40%).

Age distribution



In young children most exposures occurred in the age group 1-2 years. Children are inquisitive by nature, and as the infant becomes mobile (8-24 months) they start to explore their surroundings; inevitably putting things into their mouths.



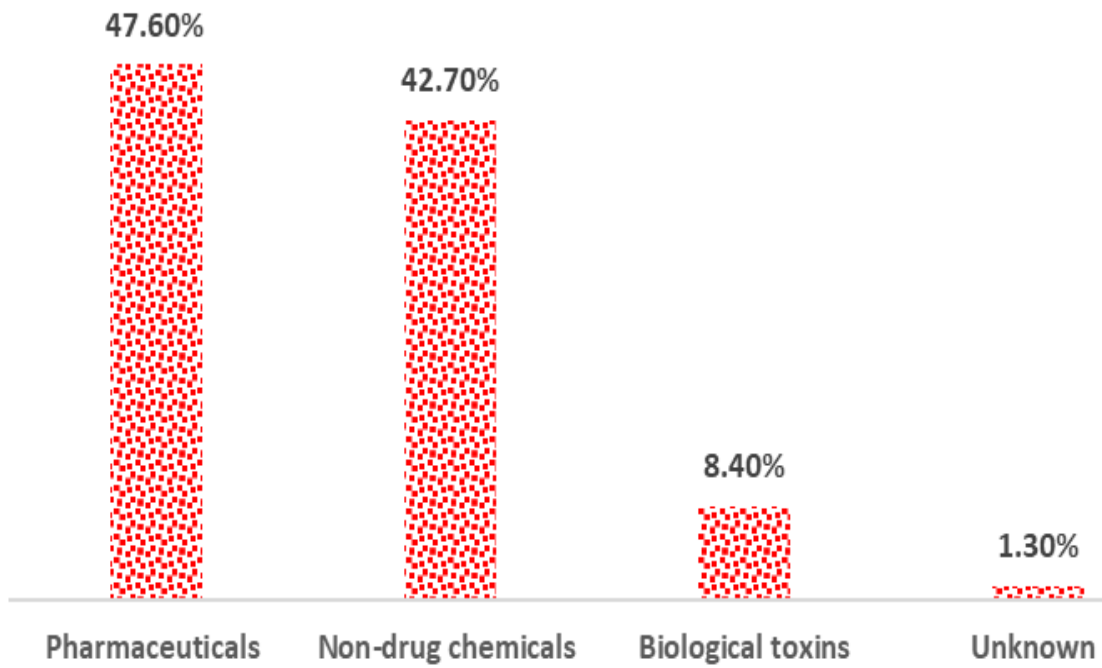
Circumstances - ALL AGES	
Accidental	7160
Contamination	31
Intentional self-harm	3401
Malicious	67
Substance abuse/misuse	104
Therapeutic error	477
Unknown	180
Grand Total	11420

Reasons for poisoning exposures in humans

The 11420 human exposures to 13626 substances can be divided into four categories:

Pharmaceuticals (n=6488); Non-drug chemicals (n=5812); Biological Toxins (n=1144); Unknown (n=182).

substances responsible for acute poisoning exposures



Breakdown of pharmaceuticals, n=6488

Analgesics/anaesthetics and antipyretics	1024
Antacids and ulcer remedies	63
Anthelmintics	24
Anticoagulants	8
Anticonvulsants	319
Antidiarrhoeal agents	21
Antiemetics	47
Anti-infectives	679
Antirheumatics and gout agents	34
Antispasmodics for GIT / GUT	59
Bronchodilators	105
Cardiovascular medicines	416
Cold and flu remedies, antihistamines	435
Cough mixtures	84
Cytotoxics	5
Cytotoxics and immunosuppressants	11
Hormones and hypoglycaemic agents	248
Laxatives	40
Lipid-lowering agents	31
Other drugs	29
Psychiatric and neurological medicines	1210
Skeletal muscle relaxants	52
Sleeping pills	287
Slimming preparations	17
Substance abuse	117
Topicals (creams, drops, oral preps)	520
Traditional medicines	16
Unknown drugs	61
Vitamins, minerals, tonics	526

Breakdown of non-drug chemicals, n=5812

Agri (Herb, Fungicide, Other)	182
Antiseptics & Disinfectants	531
Cosmetics	496
Food	214
Handyman	960
Household	1420
Industrial	467
Insecticides & Rodenticides	1542

