

Research

During the past year the Research Department moved ahead on many fronts – enhancing the research and watchdog profiles of CANSA. CANSA is increasingly being recognised as a serious and significant entity as far as research and evidence-based cancer matters are concerned.

In honour of World Cancer Day, CANSA hosted a Symposium on Cancer and the Environment with Dr Davis as Guest Speaker. Dr Davis, world renowned epidemiologist and author from the US, was CANSA's guest in February 2010. She was also the guest speaker at the official opening of the CANSA Science and Resource Centre in Mowbray, Cape Town on 28th January 2010.

CANSA funds four categories of research:

CATEGORY	DESCRIPTION
Type A	Projects initiated and executed at institutions such as universities and parastatal organisations
Type B	Environmental carcinogen research projects initiated and managed by CANSA
Type C	Projects concerning the service of CANSA, initiated or agreed to by CANSA
Type D	Research consortia focused on one theme with multiple principal researchers from multiple institutions. Selected and funded by the Cancer Research Initiative of South Africa (CARISA), a partnership between CANSA and the Medical Research Council (MRC)

TYPE A RESEARCH

CANSA's Research Committee (RESCOM), consisting research experts acting in a voluntary capacity, committed over R3.7 million to the funding of 21 research projects.

Particular emphasis was placed on the funding of research aimed at controlling the Human Papilloma Virus (HPV) which is the direct cause of cervical cancer – a major cancer in South Africa. One million Rand has been allocated to Professors Greta Dryer and Anna-Lise Williamson to develop new strategies against this very common form of women's cancer in South Africa.

TYPE B RESEARCH

During the past year Type B research has grown and diversified to include projects such as:

a) Rooibos Tea

A rapid, accurate, affordable 'high-tech' method was developed to screen Rooibos tea or extracts of the tea to determine how pure and authentic the samples were. This 'Molecular Fingerprint' approach to standardising plant extracts was presented at the annual conference of the Indigenous Plant Use Forum in Stellenbosch.

b) Uranium in the Wonderfontein Catchment

Over a two-year period 84 samples of tailings, house dust, wetlands, mealies, sweet potatoes, hair and water were collected for uranium analyses by the Department of Environmental Chemistry at WITS University. Preliminary results show that the drinking water in Carletonville is uranium-free as the water comes from the Vaal Dam by the Rand Water Board. It was also found that plumes of slime dams in Carletonville spread to within meters of residential properties as can be seen on Google Earth. Direct investigation detected about 12 to 124mg uranium per kg soil sample.

Vacuum-cleaner dust showed about 12mg uranium per kg. This is conclusive evidence that uranium from the tailings and slime dams is finding its way into homes in Carletonville. It was also found that close to 1mg uranium per kg dry weight was found in a sweet potato. Significant levels of lead were also detected in the hair of individuals drinking borehole water. Further tests are being done on water samples. It is amazing that not a single study on the impact of uranium on plants, animals or humans could be found for this area over the last 100 years.

c) Cancer Maps

CANSA is facilitating the process that could lead to the first Cancer Map in South Africa. This would be a geographic map with indicators of cancer incidence. Professors Kobus van der Walt of the University of the North West and Christina Stefan, Head of

Research

Hematology Oncology, Department of Paediatrics and Child Health, University of Stellenbosch will use the cancer incidence data in the 10 year National Paediatric Cancer Registry. These 10 000 entries allow the identification of environmental 'hot spots', to determine the role of the environmental pollution in relation to cancer incidence.

d) Essential Fatty Acids and Margarines

CANSA submitted 40 different margarines to the CSIR for complete fatty acid analysis. This study showed that all South African margarines had less than 2% trans fats per 100 grams margarine. However, it was also found that the ratio of omega-6 to omega-3 fatty acids differed widely from brand to brand. There is evidence that the amount of omega-6 fatty acid should not be more than about 2-4 times the amount of omega-3 fatty acid if one wishes to reduce the risk of cancer.

It was found that the two best margarines in terms of this ratio were Blossom Canola Margarines and Blossom Canola Lite. In these margarines the ratio was 2.2. From these results it was concluded that these products deserved the CANSA Smart Choice emblem.

Other Type-B Projects – still in progress and results pending

Acrylamide in Crisps

A joint project between CANSA, the University of Stellenbosch and the Cape Peninsula University of Technology focused on establishing the measurement of acrylamide in South Africa for the first time and the amounts of it in various brands of chips.

Sweeteners

The safety of various artificial sweeteners is being tested on a very sensitive human cell line.

Pure Tap Water

A commercially available carbon filter that can be attached to a kitchen tap is being evaluated.

Sunscreens

All sunscreens with the CANSA logo are being tested for UVA and UVB absorbency before and after being exposed to direct sunlight. There is evidence that some of these sunscreens become defective once exposed to light. This needs to be confirmed.

TYPE C RESEARCH

A Dignity Scale Project aims to assess optimal palliative care given to cancer patients by CANSA staff and volunteers by enabling caregivers to make qualitative assessments of patients. The data-set for the Dignity Tool clinical information was completed and will be rolled out in the coming year.

CANSA formed a partnership with the University of Johannesburg in sponsoring cancer projects Type B and C. Based on the shortage of care and treatment of lymphoedema, agreements were also reached with Stellenbosch University and Tshwane University of Technology. Training of staff and volunteers in lymphoedema care and treatment took place in July 2009.

TYPE D RESEARCH

CANSA has contributed the first R1million towards a lead project within CARISA regarding the prevention of cervical cancer in young girls by vaccination and older women by Pap smears.



Dr. Carl Albrecht, Sue Janse van Rensburg, Dr. Devra Davis, Alderman Ian Nielson and Alice Victor at the opening of the CANSA Science & Resource Centre in January 2010.

Cancer affects us all...

