PREVENTING CERVICAL CANCER: DENNY SCOOPS TECHNOLOGY WOMAN OF THE YEAR

Pioneering work in Khayelitsha on a screening and treatment protocol for cervical cancer stands to reduce this preventable disease by up to 70% in resource-poor settings and create massive savings for Third World countries. This achievement last month earned its South African collaborator, UCT gynaecological oncologist, Professor Lynette Denny, Woman of the Year in the Shoprite Checkers / SABC 2 Science and Technology category.

The incidence of cervical cancer among low income women in South Africa and other Third World populations is ten times higher than among their counterparts in First World countries where mass screening programmes are readily available. 'Cervical cancer represents a disease of inequity of access to resources — it is a largely preventable disease if its precursors are detected and treated,' Denny told the *SAMJ*.

With the direct relationship between mass cervical screening and the virtual eradication of the disease well established and a mere 30% survival rate for most women who develop cervical cancer in South Africa, some serious lateral thinking was required to make an impact on preventing cervical cancer in South Africa.

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Traditional Pap smears were unsuitable for mass screening because of insufficient clinics and laboratories, too few trained cytotechnologists, not to mention the tertiary-level colposcopy, biopsy and histopathology which are often required.

'I doubt if there's a single colposcope beyond the Limpopo,' Denny commented.

Some pragmatic patient-centred planning around a low-tech test with immediate results was required.

'Can you imagine if a woman at a rural clinic, say Tsolo in the Eastern Cape, is lucky enough to get her Pap smear result back after six weeks — where does she go for a colposcopy? Let's then imagine she can actually get it done at the Umtata Hospital. She gets there after paying R35 for the taxi trip but the doctor is off sick, or maybe he's actually there. Then she has to come back six weeks later for the result of her biopsy before she can be treated — another R35 or more for the taxi ride; it's just simply not viable,' Denny said.

Her 'more realistic' alternative is to find a test which gives an immediate result, and if positive, enables immediate treatment of cervical cancer precursors. Denny and her collaborators have been evaluating the safety, acceptability and effectiveness of two alternative screening tests to cytology since 1996. She and her collaborators, gynaecological pathologist Professor Thomas Wright and epidemiologist, Dr Louise Kuhn, both of Columbia University, have found that the Direct Visual Inspection (DVI) and Human PapillomaVirus (HPV) testing are in fact more sensitive than the Pap smear in detecting high-grade cervical cancer precursors.

Although the tests do produce a high false-positive rate, concerns about potential treatment problems such as infertility, cervical stenosis and discharge discomfort were allayed by the safety study results. Over 700 women have been screened and immediately treated by nursing sisters using cryotherapy and there has not been a single serious complication.

In the UK mass cervical (Pap smear) screening costs the public health system R1.62 billion per annum and in the USA R60 billion — ample illustration of its lack of affordability for Third World countries.

Lynette Denny.

Denny says that when she and her colleagues approached the Bill Gates Foundation for funding, Gates quickly realised 'he was not dealing with a third rate solution for a Third World problem'.

In collaboration with the Gates-funded and New York-based EngenderHealth NGO and Columbia University, Denny expects to bring the cost of an HPV test down from the current R225 to around R37. Denny expects the Gates funding for the development of the HPV test to reach this costing level within three years.

The results of her Khayelitsha trial which randomised 7 200 women to three arms of a study are due by January next year and are being eagerly awaited.

The first arm of the study is screening and treatment on the basis of a positive DVI test with immediate treatment by a nursing sister using cryotherapy.

The second is screening and treatment on the basis of a positive HPV test and the third (control group) is screening with treatment delayed for six months, regardless of the test outcome. Denny explained that because of the long latency period of pre-cancerous lesions and the extremely strict exclusion criteria used, creating this control group had posed no ethical problems.

She said cervical cancer was the biggest cancer killer of women but 'always falls off the priority list in terms of the health care spending cake'. Although HIV was the number one priority, cervical cancer was 'one of the most preventable diseases in the world'.

'All the infectious diseases take precedent because they are more accessible and politically more correct. Resources go to what's in your face rather than what's going to come in 20 years' time, to curative not preventative services,' she observed.

Denny said Bill Gates had been persuaded when she explained that a white woman in Bishop's Court, Cape Town had a one in 90 risk of contracting cervical cancer but that a woman in Khayelitsha or Crossroads, a one in 25 risk.

'He gave R375 million to cervical cancer prevention because he recognised it as a disease of access,' she said.

Gates' criteria for funding was a graph which on one axis had the disease criteria of being vaccine-preventable, poverty-linked and one which targeted mainly women and children while the other axis required skills, access to resources and capacity building. Her cervical cancer screening protocols met every criteria.

The Khayelitsha pilot study began in a humble caravan clinic but has now grown to nine usedshipping-container clinics with 40 staffers. ‘We've created an African solution to an African problem and put cervical cancer prevention back where it belongs — at the most basic primary level,' Denny said. Women who die of cervical cancer are most often poor, between their mid-40s and mid-50s and frequently the main bread-winner. Denny said she had made it her mission to save these women because they represented the 'moral and maternal fibre of their societies'.

'I'd rather save the life of a 45-year-old established and socio-economically functioning being than the life of a 19-year-old girl who'll die of an obstetric haemmorrhage,' she added firmly.

She believes that if every woman over 30 years old in the Eastern Cape was tested, she'd be able to show that it was possible to reduce cervical cancer by at least 70%. ‘This is a massive public health saving, not to mention preventing the enormous suffering caused by this disease. People die dreadful deaths in the prime of their lives.’

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Not satisfied with this achievement, Denny has teamed up with forensic pathologist, Dr Lorna Martin, to design a holistic management system which integrates clinical and forensic care for rape survivors in the Western Cape.

They began this in 1997 in response to the scrapping of the District Surgeon system which left relatively inexperienced casualty doctors managing rape survivors.

Every week Denny goes through dozens of the 14-page sexual assault examination and treatment forms that she and Martin designed. She insists they get sent to her for quality control. The form, which has antiretroviral drugs as part of the treatment protocol, enables hard-pressed casualty officers to handle rape survival cases 'by the numbers'.

Denny continually gives feedback to doctors in the field. The work of her and Martin resulted in a provincial rape task team being formed and the subsequent creation of an integrated system of rape care centres with a distinct policy and protocol three years ago. Denny keeps a database of every rape protocol that's been filed at the GF Jooste Hospital on the Cape Flats and at Groote Schuur Hospital.

An audit of the over 1 300 reports made by rape survivors presenting to the two hospitals makes for horrifying reading. A quarter of women (mostly between the ages of 15 and 19) were raped by more than one man, nearly a third of women were abducted to the place where they were raped (most rapes took place at the rapist's home, followed by 'open space'), a third were raped while on their way to or from work and next to transport termini and 10% were sodomised when they were raped.

The cradle which Denny and Martin weaved together was wholly embraced by an ex-nurse who is the deputy director of the Western Cape Health Department's Maternal and Child Genetics, Leana Olivier. Olivier has so far facilitated two day workshops for more than 350 individuals, ranging from school workers, nurses and doctors to municipal police.

Rape survivor or 'Thuthuzela' centres are now scattered throughout the Cape Metropole and the Western Cape.

Chris Bateman