

# ADDRESSING OBESITY AS A RISK FACTOR FOR CANCER IN SOUTH AFRICA: SIZE DOES MATTER



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*Obesity, a risk factor for cancer and an established problem in high-income countries, is escalating rapidly in low- and middle-income countries, contributing significantly to the noncommunicable disease (NCD) burden. This is largely as a result of urbanization, associated dietary changes and an increasingly sedentary lifestyle. This article will address the significant obesity burden in South Africa, and discuss possible interventions to reduce the burden of this modifiable cancer risk factor, as well as the role of the Cancer Association of South Africa in contributing to this.*

“The growing prevalence of obesity and overweight, seen in every corner of the world, is the warning signal that big trouble is on its way” – Dr Margaret Chan, Director-General, World Health Organization (WHO) (1).

In contrast to other major global risks such as tobacco and child malnutrition, obesity shows no signs of decreasing worldwide (2). In fact, since 1980, obesity has doubled globally (3). Currently, nearly 30% of the global population are overweight or obese: 2.5 times the number of those who are undernourished. If this trajectory continues, 50% of the global population will be overweight or obese by 2030. Obesity has been described as one of the top three social burdens generated by human beings, with a global economic impact on a par with smoking, armed violence, war and terrorism (4).

Obesity is defined by the World Health Organization (WHO) as a body mass index (BMI) of greater than or equal to 30kg/m<sup>2</sup>. It is a major risk factor for the rising levels of NCDs seen in low- and middle-income countries in recent years and is already well established in high-income countries (5, 6). Research indicates that overweight or obesity increases the risk for at least 10 cancers including cancers of the bowel, breast, gallbladder, prostate, kidney, liver, oesophagus, ovaries, pancreas and uterus (7). Although there are numerous other factors at play, it is worth noting that according to the most recent statistics, in South Africa, breast cancer and prostate cancer are the highest incidence cancers in women and men respectively, while colorectal

cancer is the fourth and fifth highest incidence cancer in women and men respectively (8). Together these cancers accounted for 22% of cancers diagnosed in men and 24% of cancers diagnosed in women in South Africa in 2010. Obesity contributes to these cancers. A recent study by the International Agency for Research on Cancer (IARC) concluded that nearly 500,000 new cancer cases per annum can be attributed to high BMI, and that overweight and obesity were responsible for an estimated 3.6% of all new cancer cases in 2012 (9). The mechanisms through which cancer and obesity are related are still not fully understood, but evidence thus far suggests the role of a number of factors including changes in sex hormones, insulin-related growth factors, chronic inflammation, immune function and other growth factors (10, 11).

Until fairly recently, obesity posed a negligible problem in sub-Saharan Africa (SSA), due to under nutrition and the burden of communicable diseases such as HIV and TB. However, in recent years, this picture has changed, with certain countries in particular, showing rapid escalation of obesity rates. This is particularly true of South Africa, where the highest prevalence of obesity in SSA was recently recorded in South African women, 42% of whom were found to be obese (2), with urban Black women most at risk (12). In South African men, this prevalence is 13%. Of considerable concern is the obesity prevalence in those under 20 years old, with 7% of boys and 9.6% of girls in South Africa presenting as obese (2).

Reasons for this rapid rise are likely multiple and while the causes of obesity are manifold, behavioural and societal causes offer most opportunity for intervention. Certainly, evidence suggests that there have been significant shifts in the food and beverage consumption of South Africans in recent years (13). Looking at data between 1994 and 2012, Ronquest-Ross et al (2015) found greater than 30% increases in consumption of meat, fats and oils, sauces, dressings and condiments, sweet and savoury snacks and soft drinks, as well as a reduction in the consumption of vegetables, while a national survey found that 18% of the South African population consume a high fat diet (14, 15). In addition, a recent study found a 60% prevalence of low physical activity in South Africa (16). This type of dietary and lifestyle shift goes hand in hand with urbanization and industrialization, both key features of the South African landscape (17). With a growing economy, increased earnings and rapid urbanization, the adoption of a Western lifestyle including diet (with higher levels of animal fats, processed, convenience and sugary food) and lower levels of physical activity proliferate, making urbanization a significant risk factor for obesity in South Africa (5, 18). This impacts low-income, urban dwelling South Africans most (19).

The obesity epidemic is set to have a profound impact on health outcomes in South Africa, not only with regards to increasing cancer rates, but also in terms of increasing rates of other NCDs such as cardiovascular disease and type 2 diabetes. Yet this significant risk factor has not been given attention in line with the magnitude of its potential impact, and its prevention and management has largely been marginalized. To understand this, it is important to consider the context in which the South African obesity epidemic is occurring. Mayosi et al (2009) refer to a quadruple burden of disease facing South Africa, incorporating communicable (HIV and TB), noncommunicable, perinatal and maternal, and injury-related disorders. In particular, out of necessity, HIV/AIDS and TB have taken centre-stage in terms of priorities, yet the burden of disease associated with NCDs in South Africa is set to rise substantially over the next decade, unless steps are taken to address key risk factors, including obesity (20). Indeed, the most recent statistics indicate that deaths due to NCDs outnumber those due to communicable diseases and this has been the case since 2010 (21). Stefan (2015) asserts that cancer is the second most frequent cause of death in South Africa, pointing out that the classification system currently used to classify cause of death masks this stark fact (22).

WHO affirms that after tobacco, overweight and obesity are the most important known avoidable causes of cancer

(23). As Christopher Wild of IARC has stated, “we cannot treat our way out of the cancer problem” (24). This statement refers to the global situation, however it is particularly true for low- and middle-income countries with limited resources to access and implement the increasingly costly treatments available for cancer. Therefore, the focus for cancer control needs to be on the key risk factors for cancer and obesity is one of the most significant.

### International response

There has been international recognition of the severity of the problem of NCDs more broadly. The United Nations called for a high-level Head of State summit on NCDs in September 2011. In 2011, under WHO leadership, 190 countries agreed on global mechanisms to reduce the avoidable NCD burden including a Global Action Plan for the Prevention and Control of NCDs 2013–2020. This plan aims to reduce the number of premature deaths from NCDs by 25% by 2025. In addition, in relation to obesity specifically, in 2014, WHO Director-General Dr Margaret Chan established a high-level Commission on Ending Childhood Obesity, comprising 15 experts forming a multidisciplinary group. The aim of the Commission was to raise awareness and build momentum for action to address childhood obesity.

### The South African response

In September 2011, the Department of Health (DoH) of the South African government held a summit on the prevention and control of noncommunicable diseases, attended by key stakeholders, concluding with the adoption of the South African Declaration on the Prevention and Control of Noncommunicable Diseases, including targets to be reached by 2020. This resulted in the Strategic Plan for the Prevention and Control of Noncommunicable Diseases 2013–2017. Included in the targets were to reduce by 10% the percentage of people who are obese and/or overweight by 2020; and to increase the prevalence of physical activity (25). In addition, the DoH has more recently developed a National Strategy for the Prevention and Control of Obesity 2015–2020 (26). This strategy focuses on six broad goals: to create an institutional framework to support inter-sectoral engagement; to create an enabling environment that supports availability and accessibility to healthy food choices in various settings; to increase the percentage of the population engaging in physical activity; to support obesity prevention in early childhood (in-utero–12 years); to communicate with, educate and mobilize communities; to establish a surveillance system and strengthen monitoring,

evaluation and research. These are promising developments, however the impact of these remains to be seen.

In addition, in the research sector, The African Centre for Obesity Prevention (ACTION), was established in 2015 and will provide a repository of the most effective obesity prevention policies and programmes available in Africa. ACTION will work with institutions such as the Global Obesity Prevention Centre at Johns Hopkins University, to form a collaborative network that will support programmes across Africa. ACTION will provide evidence-based information, research and training; support obesity prevention studies in African populations; and provide intellectual expertise for national surveillance studies and obesity-targeted interventions across Africa.

### Suitable interventions for addressing obesity in South Africa

The McKinsey Global Institute conducted an analysis of 74 interventions available for addressing obesity and had sufficient evidence to estimate the potential cost and impact of 44 of these. They concluded that a systematic, sustained approach that incorporates multiple interventions, including numerous key role-players (eg. consumers, governments, retailers, industry, media, health-care providers) is needed to address the problem. In addition, encouragingly, they found that most interventions are cost-effective if compared against the costs to health-care delivery and productivity as a result of obesity. Furthermore, they assert that while individual behaviour change is critical, structural interventions addressing environmental and social barriers are essential to see higher impact change (4).

In line with the above, CANSA supports the notion to address this problem using multiple approaches and involving numerous stakeholders. The World Cancer Research Fund International offers a simple framework for categorizing interventions, to be adopted here in considering interventions addressing changes in diet and levels of physical activity, suitable for application in South Africa. This includes addressing awareness, affordability, availability and acceptability (27). The section below will briefly describe recommended interventions, highlighting newer, innovative interventions, and where applicable, will include evidence of progress made in South Africa in terms of adopting these.

#### Awareness

Recommendations for interventions under this category include:

- ➔ the implementation of nutrition label standards and

- regulations on the use of claims on foods (27);
- ➔ national activity guidelines (28);
- ➔ increased education and awareness around the importance of healthy eating and exercise through various platforms including mass media (29, 28);
- ➔ nutrition counselling in health-care settings (29, 28);
- ➔ use of mobile phone technology to spread knowledge and awareness (6).

The Nutrition Society of South Africa (NSSA) initiated the process of designing food-based dietary guidelines (FBDGs) for the general South African population in 1997 in partnership with the DoH, the Medical Research Council (MRC) and several other stakeholders. The DoH formally adopted the set of FBDGs in 2003 and these were recently updated in 2012. The FBDGs for healthy adults and children 5-years and older were designed to address both dietary adequacy and prudence, and aim to change the eating behaviour of the general population towards more optimal diets that meet energy and nutrient requirements, while helping to protect against the development of NCDs. Therefore, the way in which the FBDGs are used to inform consumers about healthier eating behaviour will differ, depending on the needs of the target group. This is probably the biggest challenge with regard to implementation of the FBDGs: to change the consumer behaviour of people with the same nutrient requirements, but with very different social, economic and biological circumstances, as well as very different food preferences and eating behaviours (30).

#### Affordability

Recommendations for interventions under this category include:

- ➔ use of fiscal policies to influence behaviour;
- ➔ reducing the cost of basic healthy foods, through increased subsidization as a result of fiscal policy, thus encouraging healthy food purchases (5, 28).

The use of taxation as a public health intervention to reduce consumption of harmful products is not uncommon (eg. tobacco) although rarely used for food products. However, the intake of added sugar appears to be increasing steadily across the South African population (31, 32, 33). An excessive intake of sugar should be seen as a public health challenge that requires many approaches to be managed, including new policies and appropriate dietary advice (34). As such, a number of countries have proposed or introduced a tax on sugar-sweetened beverages (SSB), as a means of addressing overweight and obesity. A systematic review

indicated a positive association between increased consumption of SSBs and weight gain and obesity (35), and there is evidence to show that decreasing consumption of SSBs reduces obesity (36). It has been predicted that a 20% sugar tax on sugary drinks would reduce the number of obese people in South Africa by 220,000 in three years (37). Blecher (38) suggests that instead of introducing a blanket tax on SSBs, they should be taxed according to quantity of sugar. In this way, producers will be encouraged to produce and market lower calorie products, with the added benefit of influencing availability of higher calorie products. This approach also reaches all consumers, not only those who are sensitive to price increases (38). The South African Minister of Finance stipulated in his 2016 budget speech that the South African government would implement a sugar tax on SSBs from April 2017 in an effort to curb obesity. These include soft drinks, fruit juices, energy drinks and “vitamin waters” (39). While it would make sense for this additional income to be committed to other interventions addressing obesity, the details of how such a tax will impact low-income consumers or how this money will be spent, are not yet known.

Blecher (38) points out that South Africa has successfully implemented tobacco and alcohol taxes and is therefore well-placed to adopt this strategy. Mexico introduced a tax on all SSBs in January 2014 and early evidence suggests a decline in SSB purchases and an increase in untaxed beverages, including water (38). A recent review also supports this finding (40). It is important to note, however, that the introduction of such a tax will impact low-income consumers most, and in a country where poverty is still considerable, this should not be introduced without also introducing food subsidies for basic healthy food.

### Availability

Interventions recommended under this category include:

- ➔ decreasing the availability of unhealthy/high calorie food and drink and increasing the availability of healthier food options at schools and in the workplace (5, 28);
- ➔ the reformulation of foods to reduce sugar content or replace/remove trans-fats;
- ➔ environmental changes that create more facilities and spaces for encouraging physical activity (18, 20, 28, 29).

In response, in 2011, the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972) Regulations relating to Trans-fat in Foodstuffs (R127) was legislated; which prohibited the content of trans-fat exceeding 2 grams per 100 grams of oil or fat.

### Acceptability

Recommended interventions under this category include:

- ➔ decreasing acceptability of certain food and drink items through restriction of advertising/marketing of unhealthy food and drink to children (41);
- ➔ increasing acceptability of certain healthy behavioural choices by incentivising them.

The current draft labelling legislation (R429) has a set of draft guidelines applicable to the Labelling and Advertising of Foods (R429 of 29 May 2014). The policy aim of the DoH is to reduce the impact on children of the marketing of unhealthy foods and non-alcoholic beverages, which are high in fat, saturated fats, trans-fatty acids, free sugars and salt.

There has been an increase in the adoption of incentivization health promotion programmes by health insurance companies and other funders of health care. These programmes provide positive reward for healthy behaviour choices, with the aim of making such choices more acceptable and ultimately increasing the likelihood of their adoption. Certainly, there is evidence to suggest that such approaches can be successful (42, 43). However, they are not without criticism, most notably, that financial incentives may erode inherent motivation for sustained behaviour change (44). Nonetheless, this approach may offer a promising intervention option, even for low- and middle-income countries, in the form of conditional cash transfers (CCT). Here, social grants are provided on condition certain predetermined requirements are met e.g., immunization of a child, ensuring children’s attendance at school, etc. (45, 46). It is possible that such grants or other rewards could be applied to behaviours associated with reducing obesity, e.g., attending information sessions on healthy eating, purchasing certain food items, screening visits, etc. While the financial outlay may seem unfeasible, this has to be balanced against the cost of obesity and resultant illness for health-care delivery and productivity. There is considerable debate and controversy around CCTs, a discussion of which is beyond the scope of this article, however, it is worth consideration.

### What is CANSA’s role?

CANSA has taken a multi-level approach to address obesity-related issues in South Africa, largely through education/increasing awareness; advocacy work; and research.

Much of the work that CANSA has been involved in is related to increasing public awareness of healthier choices

related to diet and physical activity. Information is available on our website throughout the year, including fact sheets with messages around obesity and cancer. In addition, a series of health campaigns are run throughout the year. For the last two years, our balanced lifestyle campaign, running over two months of the year has focused on obesity, in keeping with DoH strategies. Our corporate wellness packages include lifestyle risk assessments, an important tool we use when engaging with the public in identifying high risk behaviours. In addition, CANSA promotes physical activity through our CANSA Active events which include workplaces, families and communities. Through our large footprint and sound marketing and communication strategies we are able to take our messages to grassroots level.

In addition, the CANSA Seal of Recognition (CSOR) is a programme whereby products that promote a balanced lifestyle and contribute to reducing cancer risk can carry the CANSA Seal as an acknowledgement of this. The Seal can be carried on a range of products that include food. The ingredients and labelling of food products are researched and checked to ensure they meet local and international standards. CANSA introduced the CSOR, namely, the CANSA Smart Choice Seal (CSCS) to encourage South Africans to read product labels and to assist them in making informed choices, in order to promote smart, healthy, balanced lifestyles. While this goes some way towards guiding consumer choices, the programme could be broadened to include more affordable and accessible items for those from lower socioeconomic groups. In addition, a more comprehensive approach, giving “the green light” approach for certain food categories, e.g., vegetables, may ultimately be more informative and beneficial for the public and will be explored going forward.

With regards to advocacy, CANSA is a founding partner of the South African Non-communicable Diseases Alliance (SANCDAs), formed in 2013 in response to the NCD epidemic in South Africa. SANCDAs works with civil society and key stakeholders to address NCDs. Through this forum, CANSA contributes to engaging with government on legislative and advocacy issues relating to NCDs in South Africa. Through CANSA’s advocacy and lobbying we will assist in ensuring the development and implementation of a relevant legislative framework to influence fiscal policies related to SSBs. In addition, through our watchdog role we ensure that food and beverage products sold are aligned with optimal national and international nutritional standards.

In terms of research, CANSA will be making behavioural risk reduction of cancer a focus of research funded and

conducted going forward. This will include a focus on diet and physical activity, tobacco and alcohol use as well as screening behaviour. In addition, colorectal cancer is one of the highest incidence cancers in South Africa, and evidence suggests it is increasing, with the greatest change in lifetime risk of colorectal cancer being seen in Black men and women in South Africa (8). In response to this, CANSA is looking at funding research that will contribute towards greater understanding of the influence of changing diet on colorectal cancer incidence in South Africa and various related issues.

### Conclusion

Prevention of cancer offers the most promising means of reducing the cancer burden in many low- and middle-income countries. To do so effectively requires attendance to known modifiable risk factors, such as obesity. If unimpeded, the obesity epidemic in South Africa will have increasingly significant health and economic consequences, particularly for those most vulnerable, the poor and the young. Implementing effective ways to address this epidemic is a matter of urgency. ■

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*Megan Pentz-Kluyts is a registered dietician with a Masters in Nutrition. Megan owns her own nutrition consultancy, consulting on various issues including diseases of lifestyle and gastrointestinal issues. She also consults to various clients in the food industry locally and internationally on health-related issues, including assistance with food labelling. Megan is currently involved in the committee for development of the South African Food Based Dietary Guidelines for the 0-7 year old group. Since 2007, Megan has been the consulting dietitian for CANSA.*

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