

**MEDIA RELEASE NO. 1**

**NON-COMMUNICABLE DISEASES (NCDs)**

**Introduction**

The **South African National Health And Nutrition Examination Survey (SANHANES-1)** was established by the Human Sciences Research Council (HSRC) as a population health survey that will be repeated regularly to address the changing health needs in the country and to provide a broader and more comprehensive platform to study the health and nutritional status of the nation on a regular basis.

The study, compiled by a research consortium comprising the HSRC and the Medical Research Council (MRC), was financed by the national Department of Health and the UK Department for International Development (DFID) and HSRC.

SANHANES-1 provides critical information to map the emerging epidemic of non-infectious, or non-communicable diseases (NCDs) in South Africa, and to analyse the underlying social, economic, behavioural and environmental factors that contribute to the population's state of health. Data on the magnitude of and trends in NCDs, as well as other existing or emerging health priorities, will be essential in developing national prevention and control programmes, assessing the impact of interventions, and evaluating the health status of the country.

**Methodology**

SANHANES-1 included individuals of all ages living in South Africa, except those living in educational institutions, old-age homes, hospitals, homeless people, and uniformed-service barracks. The study was conducted during 2012; 25 532 individuals (92.6% interview response rate) completed a questionnaire-based interview; 12 025 participants had a physical examination completed by a medical doctor, and 8 078 participants provided a blood specimen for biomarker testing. A biomarker is a measurable characteristic that reflects the severity or presence of the state of some disease. This first round of SANHANES will provide baseline data of a representative sample of the population for future analysis over long periods of time (longitudinal surveys).

**Key findings**

***Prevalence of NCDs:***

Respondents were most likely to self-report a *family history* of high blood pressure (30.9%), followed by high blood sugar (20.7%), while fewer respondents reported a family history of stroke (8.9%) and heart diseases (heart attack, angina, chest pain) (7.6%).

Similarly, 16.5% of respondents indicated that they had high blood pressure, followed by diabetes (5.0%), high blood cholesterol (4.2%), heart disease (2.2%) and stroke (1.8%).

The results of the clinical examination found that overall, 10.4% of participants aged 15 years and older were pre-hypertensive (blood pressure between 120-139/80-89mmHg) and a further 10.2% had hypertension (blood pressure  $\geq$  140/90mmHg).

At the national level, one out of four participants 15 years and older had an abnormally high serum total- (23.9%) and LDL-cholesterol (28.8%), and one out of two (47.9%) an abnormally low HDL-cholesterol.

Almost one out of five participants (18.4%) had impaired glucose homeostasis (an imbalance in insulin and glucagon to maintain blood glucose). Diabetes was diagnosed in 9.5% of participants.

**NCD risk factors: Physical activity and nutritional status**

**Physical activity**

The study found that based on the step-fitness test, 27.9% of males and 45.2% of females were physically unfit. Urban formal residents were more likely to be unfit than residents from other localities.

**Nutritional status**

*Anthropometry*

Overall, South African males had a mean body-mass index (BMI) of 23.6kg/m<sup>2</sup>, which was significantly lower than that of females (28.9kg/m<sup>2</sup>). The prevalence of overweight and obesity was significantly higher in females (24.8% and 39.2%) than males. The study found that 20.2% of males and 68.2% of females had a waist circumference that placed them at risk of metabolic complications. Similar results were seen for waist hip ratio (6.8% for males and 47.1% for females).

When compared to the 2003 South African Demographic and Health Survey (SADHS), the study showed that the percentage of people who were underweight or had a normal weight decreased, while overweight and obesity increased. Obesity increased substantially in females, from 27% in 2003 to 39.2% in 2012.

*Dietary*

*Household food security*

Overall, 45.6% of the population were food secure, meaning access by all members of a household at all times to enough food for an active, healthy life (score of 0 out of 8), which is a marked increase from the observation in 1999 based on the National Food Consumption Survey (NFCS), 28.3% were at risk of hunger (score of 1–4 out of 8) which is a slight increase in the proportion of at risk of hunger, and a significant decline in hunger, with 26.0% experiencing hunger (were food insecure). The marked improvement in household food security status observed in the 2008 SASAS study has been maintained, but not improved (Table 1).

**Table 1: Scores for food security, risk of hunger and experience of hunger (food insecurity) using data from four national surveys, South Africa 2012**

Variable (Score out of 8)	NFCS 1999 (n = 2735)	NFCS 2005 (n = 2413)	SASAS 2008 (n = 1150)	SANHANES 2012 (n = 6306)
	%	%	%	%
Food security (0)	25.0	19.8	48.0	45.6
At risk of hunger (1 - 4)	23.0	27.9	25.0	28.3
Experiencing hunger (>5)	52.3	52.0	25.9	26.0

NFCS, National Food Consumption Survey; SASAS, South African Social Attitudes Survey; SANHANES, South African National Health and Nutrition Examination Survey.

*Dietary intake, knowledge and behaviour*

Two out of five participants (39.7%) consumed a diet low in dietary diversity indicative of a diet of poor nutritional quality.

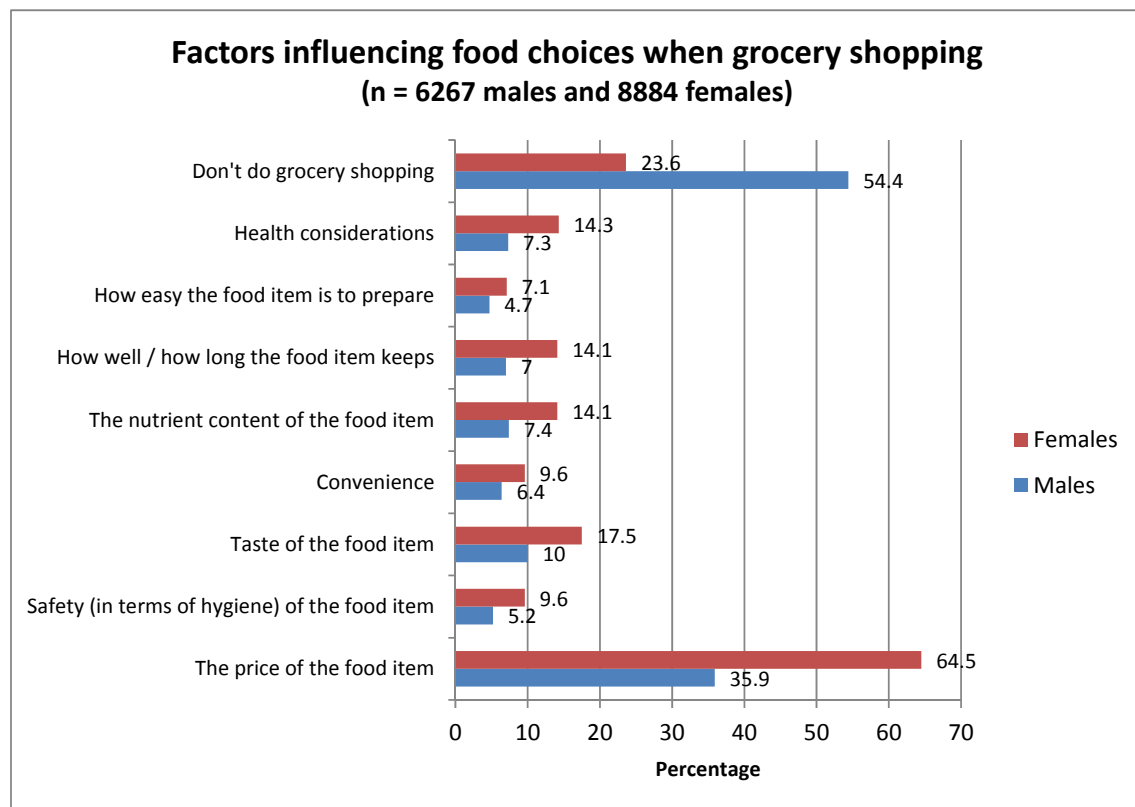
Almost one out of five participants consumed a diet with a high fat score (18.3%) and high sugar score (19.7%), and one out of four consumed a diet with a low fruit and vegetable score (25.6%). The dietary intake of participants in SANHANES-1 reflects the picture of a country in the nutrition transition and urbanisation.

On average, South African adults had a medium (5.26) general nutritional knowledge score out of a total of 9 points, with only one in five (22.6%) achieving a high score, the majority (62.9%) achieving a medium score and 14.5% achieving low scores. Nearly two thirds of adult females and males (62.1% and 65.8%, respectively) believed they drink and eat healthily, so there is no need for them to make changes in their diet.

Almost half (48.0%) of adult South Africans reported that they eat outside the home, and 28.7% reporting doing so monthly, 20.3% more than once a month, and 28.3% weekly.

The majority of females (76.4%) did the grocery shopping in the household. The price of food was the major determinant (64.5%) in relation to purchasing food, followed by taste (17.5%) with only approximately one in seven women considering health aspects (14.3%) when buying food (Figure 1).

**Figure 1: Factors influencing food choices when grocery shopping**



*Body image and weight management*

*Happiness with current weight*

Overall significantly more males (69.2%) than females (63.3%) were happy with their current weight and fewer males (13.3%) than females (18.1%) were unhappy with their current weight.

*Perceived body image (how adult participants saw their body image)*

Overall, 76.4% of South Africans perceived that they had a 'fat' body image, while less than a quarter (22.7%) and only 0.9% thought they had a 'normal' body image and a 'very thin' body image, respectively.

*Perceived BMI compared to measured BMI*

Overall 32.4% of males and 43.2% of females perceived their BMI was indeed equal to their actual BMI. Significantly more males (37.3%) perceived themselves to have a larger BMI than they actual BMI, compared to 20.8% of females.

*Ideal body image (body image adult participants wanted to have)*

Overall, 87.9% of South Africans indicated that their ideal body image was 'fat', while only 12% indicated that they had a normal ideal body image and 0.1% indicated they had a very thin ideal body image.

*Correct identification of body image from body image silhouettes*

While more than 96% of South Africans were able to correctly identify a 'thin' and 'fat' body image based on body image silhouettes, only 9.6% and 14.2% of males and females respectively were able to correctly identify a 'normal' body weight image with females being significantly more likely to identify normal body weight images than males.

*Attempts to lose or gain weight in the last 12 months*

Overall, significantly more South Africans (11.5%) attempted to lose weight than gain weight (8.6%) over the last 12 months. There were no significant gender differences among those who attempted to gain weight, however significantly more females (14.6%) attempted to lose weight than males (8.0%).

*Anaemia, Vitamin A and iron status of females of reproductive age*

Overall, the prevalence of anaemia in all participants older than 15 years of age was 17.5% with female participants having almost double the prevalence (22.0%) when compared with males (12.2%). The prevalence of anaemia in women of reproductive age was 23.1%. The prevalence of iron depletion was 5.9% and iron deficiency anaemia was 9.7% in women of reproductive age.

The prevalence of vitamin A deficiency in women of reproductive age was 13.3%. This was a significant improvement in the iron and vitamin A status in women of reproductive age compared to previous surveys and this may reflect the beneficial impact of the food fortification intervention programme implemented by the Department of Health in 2003.

**Notes**

The NCD risk profile of South Africans is a cause of serious concern. Despite the presence of cost-effective blood pressure lowering interventions, the prevalence of pre-hypertension and hypertension is high and should be seen in the broader context of the equally significant prevalence of the other NCD risk factors, namely obesity, hyperlipidaemia (an elevated level of lipids -or fats - in the blood) and impaired glucose homeostasis and diabetes. In particular, overweight and obesity are a growing epidemic around the world, especially among women, as confirmed in the current survey and are expected to have significant financial strain on economies as a result of obesity related co-morbidities.

With regard to trends in body weight and circumference measurements, and in comparison with the 2003 national data of the South African Demographic and Health survey (SADHS), there are major changes across all BMI and circumference categories, as mentioned earlier.

A comparison of the SANHANES-1 findings with those of the 2003 SADHS indicates (Table 2) overall that the mean BMI increased across all age categories, provinces, and race groups in the 2003 to 2012 period, as mentioned previously. The results of the current survey indicate a deterioration in the anthropometric status of adult males and particularly females (Table 2). The BMI, waist circumference, and waist-hip ratio all show the same trend, that is to say that obesity levels have increased in South Africa and with them an increased risk of metabolic complications associated with chronic disease.

**Table 2. Overall comparison between SADHS 2003 and SANHANES-1 of anthropometry of adult men and women**

Variable (units)	Men		Women	
	DHS 2003	SANHANES-1	DHS 2003	SANHANES-1
Mean BMI kg/m <sup>2</sup>	23.3	23.5	27.0	28.9
Underweight (%)	12.5	13.1	6.2	4.0
Overweight (%)	21.0	19.6	27.5	25.0
Obese (%)	8.8	11.6	27.4	40.1
Waist Circumference ≥ 102cm (%)	5.0	9.9		
Waist Circumference ≥ 88cm (%)			33.7	50.5
Waist-hip ratio ≥ 1.0 (%)	6.4	7.0		
Waist-hip ratio ≥ 0.85 (%)			32.0	47.4

Of equal concern are the survey findings in relation to the lipid profile of a significant segment of the population. Translating the dyslipidaemia guidelines in terms of screening and care into practice, despite its challenges, is an important aspect of the effective management of lipid related risk factors and in addressing NCDs, particularly as societies become more affluent. Furthermore, diabetes and impaired glucose homeostasis appears to have increased when compared with the findings of other, older, national surveys. The findings of the SANHANES -1 of course are unique for the country because of the selected biomarker on which such prevalence was defined.

A significant proportion of adults in the country were found to be unfit. The findings of the SANHANES -1 on physical fitness are overall in line with those recorded in the 2003 international study completed in 51 countries, which included South Africa. The 2003 international study though used self-reported data to

confirm its findings of low physical activity among South Africans. The trends reported in the current survey are also in line with those in other studies in Africa, developed countries and at the global level.

Despite the significant improvements recorded since 2008, food security remains a serious issue in the country in need of more urgent attention. South Africans consume a diet of marginal dietary diversity, are in need of better nutrition knowledge and dietary diversification, they like eating out, they cannot correctly identify a normal weight, they need to consider their health more frequently when they buy their food, and be more aware of the risk factors they may have in relation to NCDs.

The SANHANES -1 findings on the overall improvement in the micronutrient status of women of reproductive age may be related to the food fortification intervention implemented by the Department of Health in 2003.

### **Recommendations**

On the basis of the present findings, the SANHANES-1 Study Team encourages the Department of Health to do the following to reduce the prevalence of risk factors for NCDs:

- Collectively address risk factors in this domain at the home (awareness, practices, and healthy choices), workplace (enabling environment to promote awareness and physical activity) and community level (an environment that affords safety and is conducive to recreational activities) in collaboration with all other relevant government departments and employers. Multi-stakeholder discussions could be the basis upon which a road map is formalised for the immediate-, medium-, and longer-term future.
- Strengthen the current NCD strategy while making available the necessary financial support for this purpose.
- The Food Based Dietary Guidelines initiative and other such similar guidelines in relation to physical activity should be supported and used as one of the tools in any nutrition and physical fitness education campaign.
- Introduce policies that discourage, and/or ban, the explicit or covert promotion of foods known to be associated with increasing the risk of disease with priority being afforded to weight management. Such foods should display appropriate warning labels so that the public's awareness of potential or real harm is increased; the practice is not unlike that of the current claims that are made on food packages extolling the advantages, real or imagined, on the nutrient content of foods.
- Form alliances, or strengthen the current alliances, with the food industry within the defined WHO framework in manufacturing safer and healthier foods
- Enable primary health care facilities and community health workers to offer their services in the prevention, monitoring and control of NCDs.
- Create a task force, or strengthen such current groups, to address the clinical management of hypertension, hyperlipidaemia and glucose homeostasis, as well as the financial implications of free screening and medicinal treatment, including the necessary monitoring.

In relation to food security:

- Prioritise and coordinate actions in relation to food security in all its dimensions in collaboration with all other relevant government. Multi-stakeholder discussions should be the basis upon which a road map is formalised for the immediate-, medium- and longer-term future.

- Create a task team to plan and implement food-security interventions for populations in different localities. Multi-stakeholder discussions should be the basis upon which a road map is formalised for the immediate- medium- and longer-term future.

In relation to micronutrient status the team recommends:

- Retain but reappraise the food-fortification intervention programme in conjunction with the salt iodation programme, not only in terms of compliance but also in terms of the currently legislated fortifications, and levels thereof, particularly iron and zinc.
- Convene a task team, or adapt the mandate of current working groups to evaluate current compliance practices as well as the need to revise the micronutrient mix and the level of salt iodation in relation to current levels of urinary iodine.
- Revisit and reformulate the micronutrient supplementation programme for children and women of reproductive age to include regular monitoring of its impact.

The HSRC remains available to support the Department of Health in the implementation of these recommendations.

For interviews and further information, contact:

Julian Jacobs, Tel: 021 466 8042 // cell : 082 454 4902 // e-mail: [jjacobs@hsrc.ac.za](mailto:jjacobs@hsrc.ac.za)

Ina van der Linde, Tel: 012 302 2024 // cell: 082 331 0614 // e-mail: [ivdlinde@hsrc.ac.za](mailto:ivdlinde@hsrc.ac.za)