



# VITALITY NUTRITION

*We have a lot on our plates*



# Contents

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Executive summary	1
We have a lot on our plates	2
We had a big fat problem before the COVID-19 pandemic	2
Obesity, noncommunicable diseases and COVID-19 are a fatal combination	2
The role of good nutrition	3
How we responded globally when COVID-19 was added to our plates	3
What Vitality members put into their shopping baskets during lockdown	4
What we expect the impact to be on our members' BMI	4
What we can do today	5





# 01 Executive summary

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*We had a big fat problem before the COVID-19 pandemic with the high prevalence of overweight and obesity globally and in South Africa. It is well-known that overweight and obesity increases the risk of developing noncommunicable diseases (NCDs) including type 2 diabetes, cardiovascular disease and certain cancers, as well as premature death. The COVID-19 pandemic has compounded this problem with obesity and NCDs emerging as significant risk factors for severe illness from COVID-19. Good nutrition reduces the risk for obesity and NCDs and also has a positive impact on immunity, highlighting the need for evidence-based nutrition interventions during this time.*

One such intervention is the Vitality HealthyFood benefit, which utilises behavioural economics principles by incentivising members with up to 25% cashback for buying healthy foods at Woolworths and Pick n Pay. While we have seen increases in purchases of certain unhealthy foods among Vitality members during the lockdown period, the simultaneous 6.2% increase in healthy foods purchased offset the potential impact on body mass index (BMI). However, given the existing high prevalence of overweight and obesity in South Africa and that many South Africans are not incentivised to purchase healthy foods, much still needs to be done. While we are all aware of the importance of social distancing, handwashing and wearing cloth masks, achieving and maintaining a healthy lifestyle is another crucial aspect that we can and should control during and beyond the COVID-19 pandemic.



## 02 We have a lot on our plates

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*The COVID-19 pandemic has disrupted many of our lives and we find ourselves with a lot on our plates – trying to juggle work, home and family. While we had an idealized perception of what spending most of our time at home would be like, many of us found that the reality is much different.*

### **COVID-19 has created a huge challenge for the world (WHO, 2020a):**

- Globally, as of 20 October 2020, there have been 40,251,950 confirmed cases of COVID-19, including 1,116,131 deaths.
- In South Africa, as of 20 October 2020, there have been 705,254 confirmed cases of COVID-19 with 18,492 deaths.

## 03 We had a big fat problem before the COVID-19 pandemic

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*The COVID-19 pandemic compounded many of the challenges we were already facing. One such example is the prevalence of overweight and obesity globally and in South Africa, which was concerning even before the COVID-19 pandemic. Strong evidence supports an association between overweight and obesity and an increased risk of premature death (Global BMI Mortality Collaboration, 2016).*

- Globally, more than 2.1 billion people (nearly 30% of the global population) are overweight or obese, and it is estimated that 41% of the world's population will be overweight or obese by 2030 if the current growth continues (MGI, 2014).
- 4.5 million people die every year as a result of being overweight or obese (GBD 2016 Risk Factors Collaborators, 2017).
- In South Africa, 45% of South African women are obese (3.2 times global statistics), while 15% of South African men are obese (1.5 times global statistics). In addition, 10% of South African girls (twice global statistics) and 8% of South African boys (1.6 times global statistics) are obese (GBD 2015 Obesity Collaborators, 2017).
- Obesity is a main risk factor for type 2 diabetes. A recent study (Schnurr *et al.*, 2020) found that obese individuals had an almost six times higher risk of developing type 2 diabetes compared to those with a healthy weight.
- Globally, 9.3% of adults (463 million adults) have diabetes. In South Africa, 12.8% of adults (4.6 million adults) have diabetes – with half being undiagnosed (IDF, 2020).
- According to the latest Global Burden of Disease study (GBD 2019 Risk Factors Collaborators, 2020), high fasting blood glucose (an indication of diabetes) was among the top risk factors for death causing 12% of all female deaths and 11% of all male deaths globally in 2019.

## 04 Obesity, noncommunicable diseases and COVID-19 are a fatal combination

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*Obesity has emerged as a significant risk factor for becoming severely ill from COVID-19 and obese individuals may be more at risk of contracting COVID-19 (PHE, 2020, Popkin *et al.*, 2020). A meta-analysis including 75 studies found that obese individuals had a 46% higher likelihood of being COVID-19 positive, 113% higher risk for hospitalisation and a 74% higher risk of being admitted to the intensive care unit (ICU). Obese patients were further more likely to have unfavourable outcomes with a 48% increase in deaths compared to non-obese individuals (Popkin *et al.*, 2020).*

While studies still need to confirm the mechanism to explain these findings, theories suggest that obesity may adversely impact respiratory function, inflammatory response, haematological and immune function and how the body responds to infection with COVID-19 (PHE, 2020).

Overweight and obesity is also associated with an increased risk for noncommunicable (lifestyle) diseases (NCDs) including type 2 diabetes, cardiovascular disease and certain cancers (GBD 2015 Obesity Collaborators, 2017). These conditions additionally increase the risk for severe illness from COVID-19 for people of any age (CDC, 2020).

## 05 The role of good nutrition

Poor nutrition is one of the four main risk factors (along with physical inactivity, smoking and alcohol abuse) impacting the four main NCDs (namely diabetes, cardiovascular disease, cancer and respiratory disease) which cause 71% of all deaths globally (40.5 million deaths) (WHO, 2018a; WHO, 2018b).

### A healthy diet can decrease the risk of overweight, obesity, NCDs and poor mental health:



In addition to the positive impact on NCDs and mental health, good nutrition supports the immune system. The immune system requires many different nutrients to function optimally and the general advice is to eat a diverse and well-balanced diet rich in coloured fruit and vegetables (to increase the intake of antioxidant and associated nutrients) to support immune function (ISIN, 2020). In addition, a healthy gut supports the immune system and helps prevent pathogens from entering the body. The gut microbiota is strongly influenced by our diet and benefits from diets rich in dietary fibre (from whole grains and other plant foods) and colourful fruits and vegetables, as well as fermented foods such as yoghurt (Dash, 2017). Western-type diets (diets that are nutrient-poor and high in saturated fats, sugars, and refined carbohydrates) lead to chronic inflammation and impair our defense against viruses (Butler & Barrientos, 2020).

## 06 How we responded globally when COVID-19 was added to our plates

Globally, diets seem worse off. A survey conducted in April 2020 including 1047 respondents from various countries found that food consumption and meal patterns (namely the type of food, eating out of control, snacks between meals, and the number of main meals) were more unhealthy during confinement compared to before. Participants were 10% more likely to have an unhealthy diet or food, 18% more likely to find themselves eating out of control, and 20% more likely to have a snack between meals or late at night (Ammar *et al.*, 2020).

Another survey (McKinsey & Company, 2020) conducted in March 2020 among 631 Australian adults found a change in spending per month during the COVID-19 outbreak compared to before:



These figures are likely to be higher as we tend to be fallible to optimism bias, where we are unrealistically optimistic when it comes to our own habits compared to others (Sproesser *et al.*, 2015).

## 07 What Vitality members put into their shopping baskets during lockdown

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Vitality analysed purchasing data for around 320 000 Vitality members on the Vitality HealthyFood benefit. The HealthyFood benefit rewards members with up to 25% cashback for purchasing healthy foods at Woolworths and Pick n Pay, and members received double their usual cashback during the lockdown period. Purchasing data for the same members were compared between 2019 and 2020 – January to March 2019/2020 (the pre-lockdown period) and April to June 2019/2020 (during lockdown).

Before lockdown, baskets were deteriorating with 2% less healthy foods purchased in 2020 compared to 2019. However, during the lockdown period, there was an 8.4% increase (during level 5 of lockdown), 6.6% increase (level 4) and 3.6% increase (level 3) in the percentage of healthy foods purchased compared to the same time period in 2019. **Overall, members purchased 6.2% more healthy foods on average during the lockdown period (April to June) compared to 2019.**

## 08 What we expect the impact to be on our members' BMI

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**A previously-developed Vitality model (using the data of 41 419 members on the HealthyFood benefit over the course of at least 8 months) to determine associations between purchases of certain foods with changes in BMI found:**

- Foods associated with a decrease in BMI include fruit and vegetables; whole grains; nuts and seeds; healthy protein foods such as skinless chicken, fish, eggs and tofu; and legumes such as beans, lentils and chickpeas.
- Foods associated with an increase in BMI include sugary drinks including fruit juice; convenience meals and snacks high in salt and/or sugar; processed meats such as sausages, bacon and cold meats; and spices, sauces, and condiments high in salt or sugar.

Applying this model to the changes in food purchases of our members over the lockdown period allowed us to accurately predict the change in the BMI of our members if they sustain these changes over the course of a year.

**Changes in food purchases during the lockdown that contribute to an increase in BMI:**

- Increase in sugary foods which contributes to a 0.03 kg/m<sup>2</sup> increase in BMI. Increases in specific sugary foods include condensed milk (100% increase), ice cream (51% increase), and chocolates and sweets (15% and 13% increase, respectively).
- Increase in unhealthy protein foods which contributes to a 0.03 kg/m<sup>2</sup> increase in BMI. The largest increases in specific unhealthy protein foods include bacon (38.7% increase), sausages (28.8% increase) and cold meats (16.6% increase).
- Increase in baking aids which contributes to a 0.07 kg/m<sup>2</sup> increase in BMI. The largest increases in specific baking aids include dried soup (2 470% increase), soya sauce (60% increase) and Worcester sauce (50% increase).

**Changes in food purchases during the lockdown that contribute to a decrease in BMI:**

- Increase in vegetables which contributes to 0.02 kg/m<sup>2</sup> decrease in BMI. The largest increases in specific vegetables include ginger (56.5% increase), garlic (45.5%) and chillies (42.9%). Other vegetables that increased the most were spinach (30.8%) and cabbage (30.6%).
- Decrease in unhealthy convenience foods which contributes to 0.09 kg/m<sup>2</sup> decrease in BMI. The largest decreases in specific unhealthy convenience foods include pies (53% decrease), samoosas (27% decrease) and quiche (24% decrease).
- Decrease in unhealthy beverages which contributes to 0.06 kg/m<sup>2</sup> decrease in BMI. The largest decreases in specific unhealthy beverages include iced tea (41.6% decrease), flavoured water (34.2% decrease) and sports drinks (32% decrease).

The net effect of these food purchasing changes during the lockdown period is a net reduction in BMI of 0.04 kg/m<sup>2</sup> (around 0.1 kg weight loss) if sustained for a year.

Our data shows that the potential net impact on BMI due to the changes in food purchases over the lockdown period among Vitality members on the HealthyFood benefit are negligible. While we have seen increases in purchases of certain unhealthy foods, the simultaneous increase in healthy foods purchased offset the potential impact on BMI. However, given the existing high prevalence of overweight and obesity among South Africans and that not all are incentivised to purchase healthy foods, much still needs to be done.

## 09 What we can do today

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*Obesity and NCDs such as diabetes are significant risk factors for severe COVID-19 illness, but unlike other risk factors such as age, we can take steps to achieve and maintain a healthy lifestyle and reduce our risk. Dan Ariely, professor of psychology and behavioral economics at Duke University, highlights that while the COVID-19 pandemic is mostly about biology, “at the end of the day, we are people and people have to change behavior” (Duke Today, 2020).*

“We’re all victims of this global thing, but to be healthy we have to take control even on small things,” Ariely continues. While our perception of what our diets and lifestyles should look like can be daunting and discouraging, especially with everything currently on our plates, it is not realistic or necessary to strive for perfection. Sustainable weight loss does not happen overnight but is the result of small, gradual and consistent changes that add up over time. There are many evidence-based changes we can implement in our lives such as reducing our portion sizes or cooking our food from scratch more often, as well as utilising behavioural economics principles (Reijula & Hertwig, 2020) to make the healthy choice easier such as placing unhealthy foods out of reach while making healthy foods more accessible, and framing healthy choices positively to ourselves.

We are all aware of the importance of social distancing, washing our hands properly and regularly, and wearing a cloth mask when going out, but following a healthy diet and achieving and maintaining a healthy lifestyle is another crucial aspect that we can and should control during and beyond the COVID-19 pandemic.



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