

# Why traditional diets are more relevant than ever today

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The current epidemic of obesity and its co-morbidities reflect an urgent need to reform our modern eating patterns. This commentary proposes the reclamation of our traditional diets of the precolonial, preindustrial era, which are argued to be more sustainable, in terms of health, economics, and ecology, than the low-carbohydrate or Palaeolithic diet. It is also argued that, via the reclamation of traditional diets, a more successful uptake of the current Food Based Dietary Guideline for increasing intake of pulses could be achieved.

**Keywords:** low-carbohydrate diet, Palaeolithic diet, traditional diets, precolonial diets, preindustrial diets, nutritional bioavailability, micronutrient bioavailability, anti-nutrient factors, indigenous knowledge systems, plant based foods, longevity, Blue Zones

Recent research suggests the low-carbohydrate diet (LCD) (10%–40% of energy from carbohydrates)<sup>1</sup> as a way to address the epidemic of obesity and its co-morbidities, as, in the short term, they have been found to be effective for weight loss and may have favourable effects on some of the risk factors of cardiovascular disease.<sup>1–4</sup> This has likely contributed to the increasing popularity of LCDs as a weight loss strategy in recent times.<sup>2,3,5</sup> However, for those who have shown improvement, results tend to flatten out after one year and after this initial period there may be a worsening of various indicators of health in the long term.<sup>1,3,4</sup> Meta-analyses and systematic reviews of long-term, large population-based observational studies suggest low carbohydrate dietary intake, where animal-based foods are the dominant source of fat and protein, are associated with a significantly higher risk of all-cause mortality and faster weight gain.<sup>1,3,4</sup> On the other hand, LCDs where high-quality plant-based whole foods are the dominant sources of proteins and fats/oils, such as pulses and nuts, are associated with a lower risk of all-cause mortality and slower weight gain.<sup>1–3,5,6</sup> This is in line with the current Food Based Dietary Guidelines (FBDGs), ‘Eat dry beans, split peas, lentils and soya regularly’.<sup>7</sup>

Diets are healthy when they include foods such as wholegrains, pulses, and nuts, which are rich in bioactive constituents such as micronutrients, phytonutrients, fibre, and resistant starch.<sup>1,3,4,6,8–11</sup> This is likely the crux, rather than the proportion of carbohydrate to fat and the macronutrient classification of wholegrains, pulses, and nuts as fat, protein, or carbohydrate. LCDs high in protein and/or fat from animal sources are not only unhealthy but are unaffordable for the food insecure, and for those affected by the double burden of malnutrition. The cheapest LCD has been found to cost around triple the cost of the cheapest diet with no constraints on carbohydrate.<sup>12</sup> Food combinations that typically provide complete nutrition at the lowest cost, for 177 countries at each income level, were found to be those diets whose primary source of energy is starchy staples, complemented by vegetal sources of micronutrients such as legumes, fruit, and nuts, with nuts, in low- and middle-income countries,

being very low-priced items.<sup>13</sup> Ultimately, however, LCDs where animal-based foods are the sources of fat and protein are ecologically unsustainable and thus detrimental.<sup>14</sup> The aim of this commentary is to suggest a more sustainable alternative, in terms of health, economics, and ecology, to LCDs where animal-based foods are the dominant source of fat and protein. This alternative echoes South Africa’s FBDGs,<sup>7</sup> which are in line with the goals of the World Health Organization/Food and Agriculture Organization.

The literature shows that eating patterns of settled, healthy, long-lived, pre-industrial cultures were high in nutrient-dense plant-based, carbohydrate- and fibre-rich foods.<sup>11,15,16</sup> These eating patterns should be used to guide today’s dietary guidelines, rather than the so-called LCDs or Palaeolithic diets, which emanate from the diets of hunter gatherers of Palaeolithic times.<sup>17</sup> Eaton and Eaton convincingly claim that diseases today are largely due to modern diets and that there is a need to return to ancestral diets.<sup>17</sup> However, this should not have to mean returning to ancestral diets from as far back as Palaeolithic times. Rather this means returning to the Neolithic ancestral diets of the agrarian cultures that existed until the Middle Ages, in the pre-colonial, pre-industrial era.<sup>11,15,16,18,19</sup> Industrialised, processed, and modified versions of the traditional starchy foods of pre-industrial agrarian cultures, which are common in our modern eating patterns, are largely responsible for decimating health today, rather than carbohydrates per se.<sup>10,20–22</sup>

However, it was the recent increasing interest in LCDs/Palaeolithic diets that drew attention to the harm caused by today’s processed and ultra-processed carbohydrate-rich foods, which dominate the market today. These foods are a significant driver of the non-communicable disease pandemic,<sup>20–22</sup> having replaced the traditionally processed, healthy, pre-industrial era starchy whole foods. The emphasis, in LCDs/Palaeolithic diets, on almost completely stripping the ubiquitous presence of these processed, modified, carbohydrate-rich, nutrient-poor products from a healthy diet is appropriate and cannot be overstated.

Nevertheless, LCD/Palaeolithic diet proponents overlook the importance of a diet high in the starchy foods of traditional diets, such as minimally processed, traditionally prepared pulses and wholegrains, for their microbiota-accessible carbohydrates.<sup>8–11,18</sup> Such carbohydrates are both affordable<sup>7,13</sup> and vital to health<sup>7–11</sup> and should not be excluded, or even limited.<sup>11</sup> It may well be that it is not only the modern processed diet which leads to diseases, tiredness, and weight gain<sup>8,9,11,20</sup> but also, in the medium to long term, today's LCDs/Palaeolithic diets, where animal-based foods are the dominant source of fat and protein.<sup>1–3,5,6</sup>

The significance of the indigenous, local foods of a region, as well as the simple, inexpensive traditional home and village food processing methods that are used in agrarian cultures when preparing starchy foods such as wholegrains and pulses,<sup>8,10,11,18,19,23–25</sup> needs to be recognised. Once this happens, together with consumption of enough quantity and variety of these foods processed in these ways,<sup>7,10,11,18,25</sup> the health benefits can be realised. Worldwide, sub-Saharan Africa is the most food-insecure region and South Africa is the most unhealthy and unequal country.<sup>13,26,27</sup> It is here that restoration of traditional and indigenous diets and their food preparation methods is most urgently needed.

Traditional processing methods for wholegrains and pulses include soaking, fermenting, germinating, and boiling<sup>18,19,23–25</sup> and are an essential key to good health as they:

- reduce to optimal levels (the 'Goldilocks amount') of the naturally high levels of anti-nutritional factors found in starchy foods (and particularly so for pulses), which can impair optimal digestion and nutrition,<sup>10,18,19,23–25</sup>
- reduce to optimal amounts substances such as fructans and other fermentable oligo-di-monosaccharides and polyols, found in many starchy foods, and which in susceptible individuals can cause digestive distress and dysregulated immunity;<sup>18</sup>
- allow the reduced levels of anti-nutritional factors, fructans and other fermentable oligo-di-monosaccharides and polyols to act as phytonutrients and nutrients, providing protection from disease and premature ageing,<sup>10,18,23,24</sup> while in addition improving food safety;<sup>19,23,25</sup>
- employ a minimal form of processing, which allows the food to deliver approximately the same rich balance of nutrients and phytonutrients found in its original unprocessed form.<sup>10,18,19,23</sup> By contrast, industrial processing typically splits the whole food into its component parts and strips it not only of the anti-nutritional factors, but also of most of its nutrients and phytonutrients.<sup>10,22</sup> In addition, industrial processing adds unhealthy ingredients.<sup>20,21</sup>

Recognising that industrialisation and the nutrition transition have eroded much of the knowledge of these health-enhancing household food processing techniques explains the apparent dichotomy between the research linking unprocessed whole-food diets rich in starchy foods to health and longevity<sup>7,9–11,18,25</sup> and the research findings which reflect the adverse effects and discomfort that result for some today on consumption of starchy whole foods such as wholegrains and legumes.<sup>18,19,24,28,29</sup> Traditional home food processing is no longer the norm. Even the memory of these practices is all but forgotten or overlooked today in the developed world, as well as in industrialised societies of the developing

world.<sup>10,18,19,25</sup> In certain remote pockets around the world, however, traditional diets and lifestyles of the preceding ~10 000 years have survived in communities with extraordinary levels of health and longevity. The regions where these communities are found have become known as the Blue Zones.<sup>11,15</sup> Intriguingly, it has been suggested that a region in the mountainous Joe Gqabi District of the Eastern Cape of South Africa could be considered worthy of adding to the list of the regions comprising the Blue Zones.<sup>16</sup> However, as industrialisation and globalisation encroach into ever more remote areas, the inevitable decline in indicators of longevity and health in some of these regions is sadly occurring.<sup>11</sup>

Traditional diets of settled, agrarian, pre-industrial cultures have been effective in the past—and are the way to now restore not only each individual's health, but the health of our planet too. There is a lack of public awareness concerning the significance of the inherent collective dietary knowledge that traditional agrarian cultures possess, with respect to local and indigenous foods and food-processing techniques for starchy whole foods. This likely underlies, in part, the insufficient intake of wholegrains and pulses today. Public awareness of the benefits of this knowledge for digestive tolerance and nutrition needs to be increased, by foregrounding FBDGs for pulses and wholegrains, with guidelines for their preparation, which incorporate these traditional and indigenous knowledge systems. In this way, adoption of traditional home-processing methods for these starchy foods of traditional diets could lead to a greater uptake of FBDGs for wholegrains and pulses.

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