



## HOW TO TACKLE OBESITY ?

The prevalence of obesity has risen rapidly in the last two decades, especially among sub-populations exposed to cheap ultra-processed foods. On current trends, obesity is expected to affect 18% of men and more than 21% of women by 2025. In the present issue of The Global Fruit & Veg Newsletter (GFVN), Jean-Michel Lecerf, based on the publication of Jaacks LM., present the four stages of the obesity transition since 1975. Recognising the rising health crisis, the members of the World Health Assembly agreed in 2013 a target of 'no increase in the prevalence of adult obesity or diabetes' above 2010 levels by 2025. To meet their commitments, governments are encouraged to consider a range of population-wide policies to influence health behaviour and reduce the obesogenicity of the environment. Prominent among these policies, school-based

interventions to change children's behaviour are explored in this issue of GFVN by Naser Alsharairi. Several countries have experience of this policy as well as other relevant policies and their impact. School interventions can be difficult to sustain but if effective can improve health for a whole generation and the next generation beyond. These approaches are not alternatives but should be part of a comprehensive suite of population-level interventions. Finally, Thierry Gibault presents the review of D'Innocenzo S. *et al.* which aims to reiterate the importance of the Mediterranean diet as a dietary model to promote health for everyone, and especially as a model for overweight and obesity prevention.

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### SAVE THE DATE

November 5<sup>th</sup>- 6<sup>th</sup>, 2020

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*\*The originally scheduled meeting in Brussels has been dematerialized given the current sanitary circumstances.*



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# Transition and obesity

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*In today's world, transition is a regular topic of conversation: dietary transition, energy transition and so forth. In fact, the term reflects profound changes in terms of health or behaviour, whether or not these have yet to be realised.*

*The obesity epidemic across the globe can be analysed through the lens of transition. Among the 84 risk factors evaluated in the global "burden" of disease, injuries and risk factors, obesity has seen the largest rise in prevalence since 1990, ranking highest among the 5 factors responsible for deaths and reduced life expectancy.*

Although the prevalence of obesity (<30 kg/m<sup>2</sup>) around the world may vary dramatically by country (ranging in the Pacific from 0.2% in Vietnamese women to 65.3% in American women from the Samoan Islands in 2016), it is possible to identify factors in the evolution of the prevalence of obesity – referred to as the obesity transition – to inform the development of preventative policies.

This study entailed the analysis of the 30 most populated countries around the world, representing 7.5 billion people, or 77.5% of the global population. The authors describe an evolution in 4 stages.

## Stage 1: Higher prevalence of obesity among women in more affluent social classes

In 1975, the prevalence of obesity was below 5% for 16 of the 30 most populated countries.

At the time, the prevalence of obesity already stood between 5 and 20% in several countries: **this is Stage 1**, with a prevalence 2 to 9 times higher among women than men, and a higher prevalence in more affluent social classes among women, whereas social class has no impact among men. These included countries such as Mexico, Columbia, Brazil, Egypt, Turkey, Iran, Russia and South Africa. Forty years later, among the countries studied, only Vietnam had yet to enter the transition, with less than 5% obesity in 2016. Today, every one of the highly populated, low-income countries has entered Stage 1 (5 to 20% obesity), including Bangladesh, Pakistan, India, DR Congo, Ethiopia, Kenya, Nigeria, Tanzania and Sub-Saharan Africa. In these countries, the prevalence of obesity is 5 to 14% among women and 4% among men. It remains low among children, with a prevalence of 2%.

## Stage 2: Large increase in the prevalence of obesity among adults and children in the affluent social classes

**Stage 2** of the transition is characterised by a very large increase among adults, reaching 25 to 40% among women, approximately 20 to 25% among men, and 10% among children. The prevalence is higher in the affluent social classes. Every country that was in Stage 1 in 1975 had entered Stage 2 in 2010. It was noted that a few countries have yet to enter Stage 2, such as Japan, South Korea and China. Brazil is an exceptional case, with a decrease between 1989 and 1998 among women in high socioeconomic classes, despite the continued increase among women in less affluent social

classes and among men irrespective of their socioeconomic situation.

## Stage 3: Higher prevalence of obesity in the less affluent communities

**Stage 3** is characterised by an identical prevalence to Stage 2 for men and women alike, however, there is a reversal of the different socioeconomic groups, with a higher prevalence in the less affluent communities. Furthermore, there is an acceleration in the prevalence among the populations with low BMI during Stage 2. The prevalence of obesity continues to rise among children to approximately 15%. In 2016, this applied to the USA and each of the European countries studied (France, Spain, Italy and Germany), with a sharp increase in prevalence in the low-income social classes. In the majority of the European countries, there was a greater increase in prevalence among men and women with a lower level of education between 1990 and 2010.

## Stage 4: Declining prevalence of obesity particularly among children and in the affluent social classes

**Stage 4** is marked by a decline. It starts with children, above all, in the higher social classes. Among adults, the decrease is greater in the more affluent social classes. One could argue that the reversal among adults will owe more to the absence of entry into adult obesity, as opposed to a reversal in the weight of adults. Social inequality will persist or increase further. Multiple factors underlie these evolutions: sociocultural (body image, cuisine, etc.), economic, regulatory, environmental (urban planning, etc.) and lifestyle-related (work, transport, etc.).

## Modifiers of the obesity transition

The case of countries in East Asia – affected by obesity to little or no extent – is interesting: it may suggest genetic and also cultural factors as the BMI of migrants of low weight remains unchanged. Social norms are also an important factor, for example, in Japan. However, there remains an inequality between countries and within countries (for example, in India). In particular, indigenous populations confronted with a sudden transition in terms of their lifestyle and diet are highly exposed to a sharp increase in the prevalence of obesity.

Nonetheless, one cannot ignore the coexistence of other transitions that are favourable: decline in mortality, decrease in undernutrition and transmissible diseases, reduction in heavy physical labour and increased life expectancy. At the same time, fertility and birth rates are falling.

**No one knows whether excess weight and obesity will become the norm – the price to pay for other changes – or whether a new equilibrium will emerge, accompanied by a decrease in BMI. In the latter case, will this be the consequence of a reduction in the number of people suffering with obesity or a decrease in BMI among certain classes? We must follow these developments.**

Based on: JAACKS LM, et al. The obesity transition: stages of the global epidemic. *Lancet Diabetes Endocrinol*, 2019 Mar;7(3):231-240.

# Potential school-based policies to reduce obesity in Queensland

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*Nutrition and physical activity policies have been shown to be effective in reducing obesity in schools. Obesity has been identified as a significant health problem among Queensland (Qld) children with a sharp increase in prevalence. This increase is due in part to unhealthy eating habits, reduced levels of physical activity, or a combination of the two. Hence, effective nutrition and physical activity policies need to be developed to restrict this increasing burden of disease. In responding to the obesity problem, the Qld Government has delivered a series of initiatives such as encouraging increased investment in provision of healthy foods and drinks and increasing physical activity levels in schools.*

*However, there is still far to go, as children continue to eat sugary and fatty foods and remain physically inactive. The Qld Government should move forward with increasing its investments in developing different sets of policy options focused on nutrition/physical education and/or parental involvement in school nutrition programs, which could be seen as potential strategies towards reducing obesity in schools. Therefore, this paper aims to discuss potential policy options that could reduce obesity in Qld schools. This work will be of significant interest to decision makers and people working in the area of childhood obesity.*

## Evidence from the effectiveness of school-based policies

School-based policies that could be effective in reducing obesity among children are nutrition education, physical education and parental involvement in nutrition and physical activities. In the context of Western countries like the US, UK, Canada and Australia, school-based interventions have shown that improvements can be made in children's dietary and physical activity behaviours. Intervention studies included lessons on the topic of nutrition and gardening activities, and these programs have resulted in not only increased fruit and vegetable (F&V) intake, but also improved nutrition knowledge, preference, attitudes and outcome expectations for eating F&V, and improved self-efficacy to increase intake of F&V and dairy foods, and reduce consumption of snack foods. Evidence has demonstrated that teachers' involvement

in physical education and activity was a key element of the program. The efficacy of school-based physical activity interventions have been demonstrated through improved knowledge, enjoyment, preference, self-efficacy and attitudes towards physical activity among children. Some of the programs have emphasised the importance of parents' involvement in health education as a critical environmental determinant of successful interventions. Programs where parents participated in multi-component activities such as the classroom curriculum were successful in significantly improving children's healthy eating and physical activity.

## A plan of action in Qld: success is possible

There is no evidence to support the impact of school-based obesity prevention targeting nutrition/physical education and parental involvement in Qld. Indeed, policy makers have given scant attention to healthy eating and physical activity among children, so investing in sensible policy informed by sound research is badly needed. Setting priorities for investment would be critical to implement sustainable and effective policies. Obesity prevention should be a high priority for the Qld Government. Government should take positive action to provide adequate funding to support the implementation of nutrition and physical activity education programs. Effective government policies for obesity prevention need to focus on developing a comprehensive action plan that includes assessment, implementation and evaluation. Policy makers can play an important role in implementing effective policy strategies and formulating more strategic actions to promote healthy eating and physical activity. Policy makers can also play a role in formulating theories and wider understandings of the relationship between personal and environmental determinants, and policy practice.

**Successful implementation of policy options in Qld schools may include developing effective policy engagement between stakeholders and policy makers to achieve the aims of: (1) developing nutrition and physical education programs to improve children's dietary behaviours; and (2) implementing parent involvement strategies to promote children's dietary and physical activity behaviours by keeping parents involved in program activities.**



Based on: Alsharairi, N. (2018). Current Government actions and potential policy options for reducing obesity in Queensland schools. *Children*, 5(2): 18.

# Obesity and Mediterranean Diet

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*Diverse socioeconomic factors have led a large part of the population to adopt eating habits of poor nutritional quality. Although the Mediterranean Diet (MD) presents many benefits for the prevention of numerous pathologies, including obesity, its adoption is being supplanted by dietary patterns related to sociocultural changes.*

## Mediterranean pattern: when the evidence speaks

The MD is among the most effective dietary patterns with regard to the prevention of diseases linked to obesity. It is characterised by:

- high consumption of fruit, vegetables, nuts, whole grains and olive oil,
- moderate consumption of fish and poultry,
- and low consumption of sugar, red meat and dairy products.

Low in saturated fats, rich in monounsaturated fats and with a balanced ratio of n-6/n-3 essential fatty acids, it provides a large quantity of fibres and antioxidants. It is associated with a lower risk of mortality due to cardiovascular diseases, coronary heart diseases, obesity, type 2 diabetes and metabolic syndrome.

This review identifies the publications on existing strategies to increase adherence to the Mediterranean diet and combat the propagation of obesity.

## Obesity as a global disease

Obesity is caused by an imbalance between energy intakes and expenditures, resulting in excess adiposity. A sedentary lifestyle and poor eating habits, combined with genetic predisposition, are contributing factors.

Throughout the entire world, the average BMI (body mass index) and the prevalence of obesity rose in children and adolescents from 1975 to 2016. A transition towards the consumption of foods of poor nutritional quality can result in weight gain among this population, increasing the risks of arterial hypertension, insulin resistance, dyslipidaemia, hepatic steatosis, sleep apnoea, and psychological and social complications.

## What to choose? Mediterranean diet vs. Western diets

According to the World Health Organisation (WHO), children in the Mediterranean region who turn away from the MD have a greater body weight than their Swedish counterparts, who are accustomed to a MD consisting of more fish and vegetables from an early age.

The adoption of the MD began to diminish between 1961 and 1965, a period marked by industrialisation and the increased availability of processed foods, red meat and sugar to the detriment of vegetables and cereals. Women were in employment, the preparation time for meals was reduced and buying ready-made meals became widespread. Today,

the westernisation of diets is particularly evident, especially among the youngest generations.

## The obstacles to following the MD

The main obstacles are cost, incompatibility with tastes, preferences and the belief that it is overly time-consuming. Improving the quality of diets entails the inclusion of affordable foods within the cultural heritage, increasing the convenience and accessibility of affordable foods, without sacrificing taste or enjoyment.

## Fiscal strategies for a healthier lifestyle: do they work?

“Junk food” taxes designed to influence dietary choices often give rise to lively debate.

For example, governments are imposing taxes to reduce the consumption of sugar-sweetened drinks. However, there is no evidence to suggest that taxation leads to an actual improvement in the health of the population.

Even though soft drinks only represent a small proportion of “junk food”, it is reasonable to ask whether taxes on sugar or salt can truly provide a realistic solution, insofar as the real objective is to encourage citizens to willingly adopt a healthy diet.

Accordingly, the WHO recommends the deployment of financial incentives in a complete and coherent political context.

## The role of the food and drinks industry

It remains difficult for consumers to evaluate the nutritional value of ultra-processed foods. When making their choices, consumers will generally rely on brand reputation.

Governments can step up information, communication and education for the most disadvantaged consumer groups, in particular, to raise awareness and promote their understanding of these foods. Doctors have a role to play in promoting a healthy diet to their patients. Children are sensitive to the persuasive power of clever advertising and influenced by peer pressure. For the most part, advertising relates to foods of poor nutritional quality, which has led to its regulation in numerous European countries. Nevertheless, the existing measures are insufficient according to the WHO.

## Individual choices and actions to be implemented

Diet, physical activity and behavioural changes remain the core aspects of managing obesity, together with a set of public policies structured in such a way as to increase their dissemination as part of a system incorporating different levels of intervention. The MD prevents numerous diseases. Not only would encouraging people to adopt this diet be beneficial to public health, above all, it would represent a concrete measure to intervene in terms of economic sustainability.