

A LOOK AT GLOBAL SUGAR CONSUMPTION FIGURES AND PUBLIC HEALTH RESPONSES IN RELATION TO OBESITY INCIDENCE

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THE ANTI-SUGAR FURORE

- The volume of anti-sugar statements and anti-sugar initiatives has increased exponentially in recent years
- These generally fall into 3 categories
 - Systematic research from credible academic sources e.g. WHO sugar intake study (2015)
 - Populist scientific statements with some often selective science behind them from individual 'crusaders' such as Gary Taubes & Robert Lustig
 - Information propagated by the media and the internet which is of very variable quality and credibility
- We could be forgiven for concluding that removal of sugars from our diets will on its own solve the obesity problem!



CHALLENGES IN COMING TO A CONSENSUS

- The sheer volume of information available is difficult to digest
- The debate has become extremely emotional
- The debate has been partially hijacked by public health campaigners with broader anti-industry agendas
- Need to differentiate between the 2 potential negative effects of sugar consumption i.e. dental caries & obesity
- Need to consider sugar intake in the context of total carbohydrate consumption
- Need to consider sugar intake in the context of broader topics of energy intake and energy balance

IT IS REALISTICALLY IMPOSSIBLE TO GIVE AN
OBJECTIVE SUMMARY

HOWEVER LET'S TRY TO IDENTIFY A FEW KEY
ISSUES...

% OF ENERGY INTAKE FROM TOTAL SUGARS IN VARIOUS AGE GROUPS

Age Group	Number of Studies	Mean	Minimum	Maximum
Infants & Young Children	23	28.2	20.0 (Iceland)	38.4 (UK)
Children 4-10 years	31	26.3	17.0 (Italy)	34.8 (Netherlands)
Adolescents 12-18 years	27	24.0	15.4 (Italy)	29.6 (Germany)
Adults	44	20.1	13.5 (Italy)	24.6 (USA)
Adults >60 years	18	19.6	13.3 (Italy)	23.2 (USA)

Data from:
Australia, Austria,
Belgium, Brazil, Canada,
Denmark, France,
Finland, Germany,
Iceland, Ireland, Italy,
Netherlands, New
Zealand, Norway,
Sweden, UK, USA

Unfortunately SA
is not included!

Newens & Walton J Hum Nutr Diet 2016 April 29(2)

CHUN ET AL STUDIED CHANGES IN DAILY NUTRIENT INTAKES IN USA OVER TIME USING NHANES DATA

	% change between 1971-75 and 1988-94		
Nutrient	All ages	1-18 years	19+ years
% energy from total sugar	1.0	3.6	2.8
% energy from added sugar	4.1	7.5	6.1
% energy from total carbohydrate	9.9	9.2	12.0
% energy from fat	-6.8	-7.1	-5.9
Total energy	7.2	-2.8	11.5

Chun et al, Nutrients 2010, 2, 834-854

BUT WHEN WE COMBINE USA NHANES DATA
FROM 1988-94 & 2013-2014...

	% change between 1988-94 and 2013-2014		
Nutrient	All ages	1-18 years	19+ years
% energy from total sugar	-11.6	-14.6	-9.6
% energy from total carbohydrate	-2.5	-3.9	-2.6
% energy from fat	0.1	-1.6	-2.4
Total energy	-2.5	-3.9	-2.6

WHAT DO WE SEE?

- Sizeable increases in total energy intake and in contributions to energy by total sugars and carbohydrate between 1971-75 and 1988-94
- BUT some reduction in total energy intake and significant reduction in contribution of total sugars and carbohydrate to energy intake between 1988-94 and 2013-14
- Period between 1988-94 and 2013-14 is when the obesity epidemic really started to kick in
- AND YET – sugar / carbohydrate intakes appear to have decreased during this period!

Is it a question of ‘you can do anything with statistics’ or are sugars and carbohydrate taking an unfair share of the blame for the obesity issue???

SINCE THEN THE WHO HAS MADE RECOMMENDATIONS ON SUGAR INTAKE



Guideline:

**Sugars intake for
adults and children**

KEY STATEMENTS IN THE WHO DOCUMENT

OBESITY:

- ‘Meta-analysis of randomised controlled trials in adults suggest an association between reduction of free sugars intake and reduced body weight. Increased intake of free sugars was associated with a comparable increase in body weight’
- ‘The overall quality of the available evidence for an association between a reduction of free sugar intake and reduced body weight in children was considered to be moderate whereas the quality of evidence for an association between an increase in free sugars intake and increased body weight was considered to be low’



KEY STATEMENTS IN THE WHO DOCUMENT

DENTAL CARIES:

- 'An analysis of cohort studies in children suggests a positive association between the level of free sugars intake and dental caries'
- 'The evidence suggests higher rates of dental caries when the level of free sugars intake is more than 10% of total energy intake compared to it being less than 10% of total energy intake'
- 'Furthermore in three national population studies, lower levels of dental caries development was observed when per capita sugars intake was less than 10kg / year (approximately 5% of total energy intake)'



KEY STATEMENTS IN THE WHO DOCUMENT

RECOMMENDATIONS:

- 'WHO recommends a reduced intake of free sugars throughout the lifecourse (*strong recommendation*)
- 'In both adults and children, WHO recommends reducing the intake of free sugars to less than 10% of total energy intake (*strong recommendation*)
- 'WHO suggests a further reduction of the intake of free sugars to below 5% of total energy intake (*conditional recommendation*)



PRACTICAL IMPLICATIONS OF THE WHO RECOMMENDATIONS

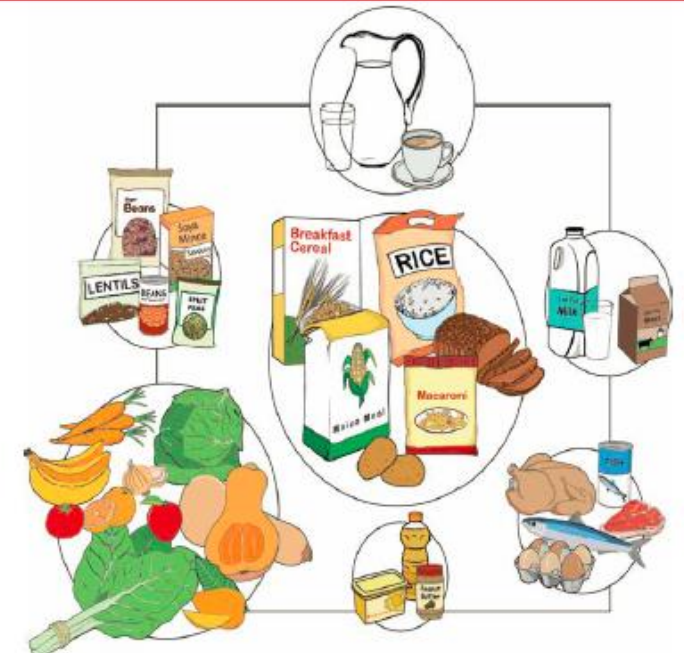
- Unlikely that most diets meet the '10% of energy from sugars' criteria
- Lowest value in Newens & Walton study was 13.3%
- Extremely unlikely that any diet will meet the '5% of energy from sugars' criteria
- Behavioural and taste preferences are a major concern
- WHO targets should be seen as aspirational and a long term objective rather than realistic in the short term but highlight the desirability of a reduction in sugar intake for most people



IN SOUTH AFRICA, FBDG'S INCORPORATE SUGAR RECOMMENDATIONS

- 'The intake of added sugar appears to be increasing steadily across the South African population'
- 'Children typically consume approximately 40-60g/day, possibly rising to as much as 100g/day in adolescents. This represents roughly 5-10% of dietary energy but could be as much as 20% in many individuals'
- 'We propose that an intake of added sugar of 10% of dietary energy is an acceptable upper limit'
- 'However, an intake of <6% of energy is preferable...'

Temple & Steyn SAJCN 2013:26(3)



BUT INTERESTINGLY IN SOUTH AFRICA...

- National food consumption survey (1999) indicated:
 - Mean daily intake of sugar in children aged 6-9 years was 67 g (white children) and 47 g (black children) and 42 g in urban and 26 g in rural areas
 - Sugar contributed 5.5% of overall energy intake (percentage of energy) in children aged 1-9 years but was over 10% of energy intake in urban areas and in some cases as high as 20% of energy intake
- SANHANES (2013) indicated that on a scale where high = 6-8, moderate = 3-5 and low = 0-2:
 - Mean score was 2.95 for males and 3.05 for females
 - Highest consumption in age group 15-24 years
 - Lowest consumption in age group 65+ years
 - Consumption in urban formal areas highest (3.36) and lowest in rural formal areas (2.26)

The South African National Health
and Nutrition Examination Survey

SANHANES-1

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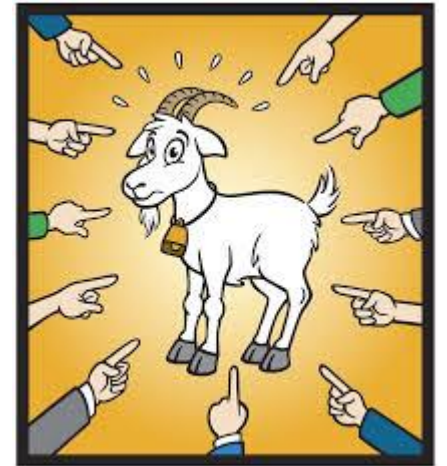
Appears that our consumption levels are closer to the <10% of total energy intake in WHO guidelines and SA FBDG's than we might think!

WHAT CAN WE CONCLUDE?

- The case for reduction in intake of sugars is particularly strong in terms of the effect on dental caries incidence
- The case for sugar reduction as an obesity reduction tool is arguably weaker, particularly if we consider the USA NHANES data which appears to suggest that obesity incidence has continued to increase during a period when consumption of sugars actually reduced
- However a reduction in sugar intake is clearly desirable as an important component of overall energy intake reduction

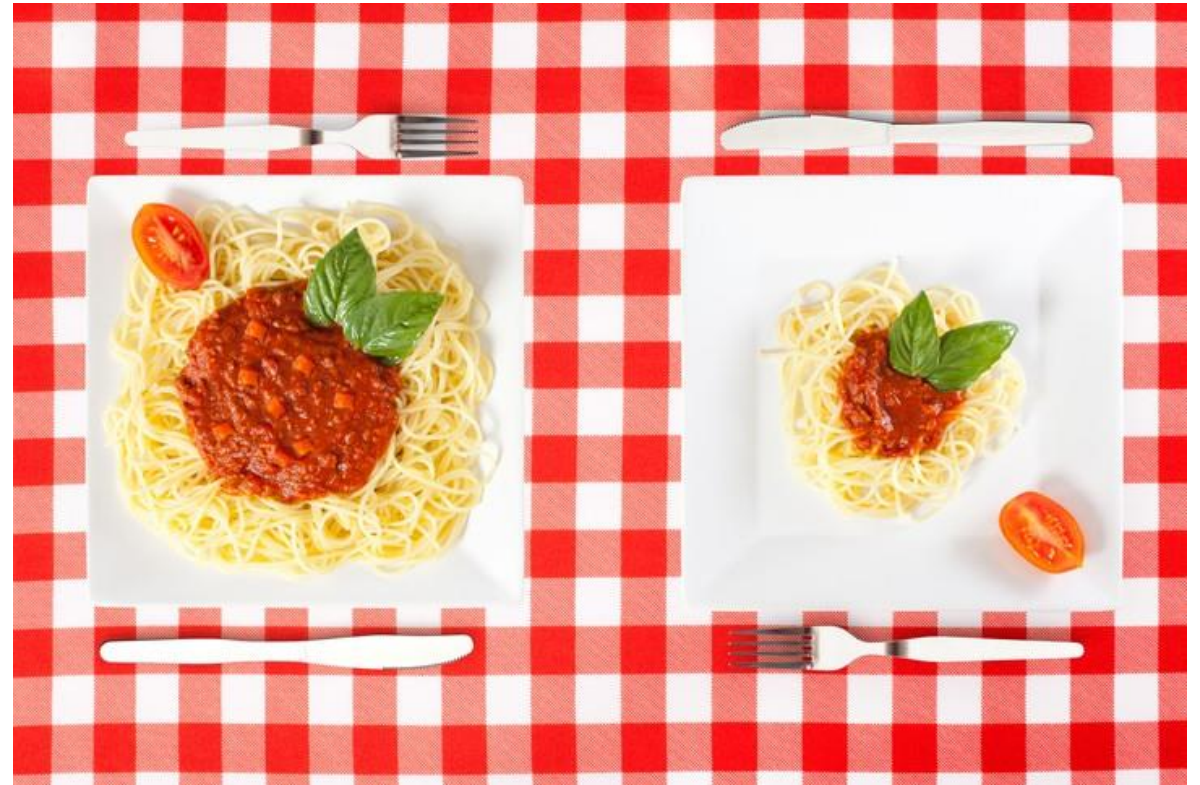
BOTTOM LINE IS THAT WE ARE CONSUMING TOO MUCH OF
EVERYTHING!

WHILE NOT BLAMELESS, COULD IT BE THAT SUGAR IS BEING
TREATED AS A BIT OF AN OBESITY SCAPEGOAT??



PERHAPS THE SOLUTION IS THE
'SUNLEY DIET'??

EAT LESS FOOD!



THANK YOU