- ✓ The consumption of liquid sugar, found in SSBs, is a leading cause of weight gain and obesity
- ✓ Good hydration behaviour and the consumption of water in place of SSBs is a simple natural way to reduce obesity and therefore obesity-related disorders

SIMPLE CHANGES IN HYDRATION HABITS CAN HELP PREVENT OBESITY AND OBESITY-RELATED DISORDERS

Plain water is the best choice – the natural way to good health

The key approach to address these modern day health issues is to reduce calories from beverages by drinking more water. Water has no sugar, no additives and no calories.

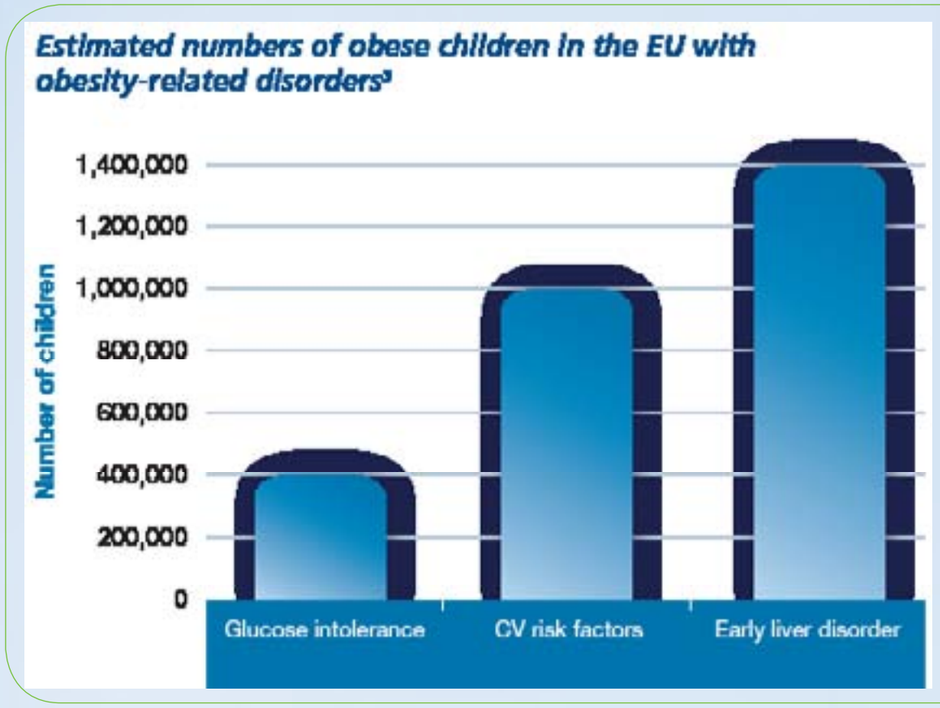
- Water is an essential macronutrient - recommending water is the healthiest hydration advice you can give
- Recommend 2 litres of water daily – a healthy habit for a healthier lifestyle

WHAT ADVICE NEEDS TO BE GIVEN REGARDING FLUID INTAKE AND BEVERAGE CONSUMPTION?

THE IMPACT OF SUGAR-SWEETENED BEVERAGES ON WEIGHT GAIN AND OBESITY - WE ARE WHAT WE DRINK!

THE WORLD IS GETTING FATTER

- There are now at least 300 million obese adults and 22 million obese children under 5 years old in the world[1]
- Obesity-related disorders such as diabetes and metabolic syndrome have become 21st century health epidemics[2]
- Childhood obesity is a strong predictor of obesity in adulthood and carries a high risk for the early development of obesity-related disorders[3]



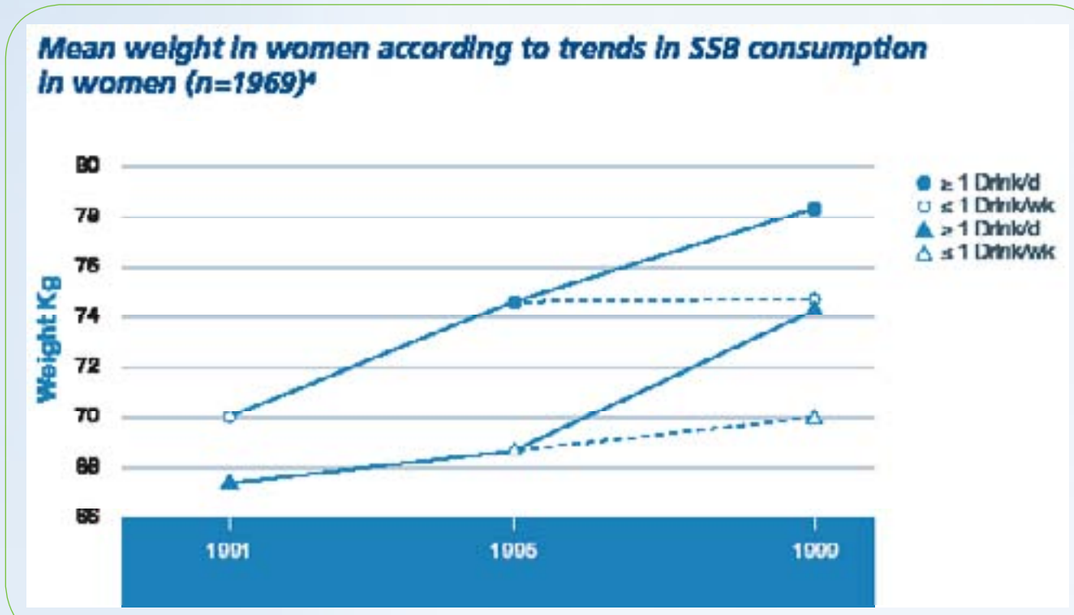
Obesity, diabetes, and metabolic syndrome have become disorders of epidemic proportions that pose a major risk for serious chronic diseases including type 2 diabetes, cardiovascular disease, hypertension and stroke, and certain forms of cancer.[1]

Childhood obesity is an especially alarming problem and has profound implications for the present and the future health of our children. Unless action is taken, the European Union can expect to see the numbers of overweight and obese children rising by approximately 1.3 million children every year, of which 0.3 million will be obese.[4]

1. World Health Organization. Obesity and Overweight. Global Strategy on Diet, Physical Activity and Health. Available at http://www.who.int/dietphysicalactivity/publications/facts/obesity/en/. Accessed <http://www.who.int/dietphysicalactivity/publications/facts/obesity/en/.%20Accessed> April 2009. 2. Riccardi G, et al. PASSCLAIM--body weight regulation, insulin sensitivity and diabetes risk. Eur J Nutr 2004; 43 (Suppl 2): II7-II46. 3. Lobstein T, et al. Estimated burden of paediatric obesity and co-morbidities in Europe. Part 2. Numbers of children with indicators of obesity-related disease. Int J Pediatr Obes 2006;1:33-41. 4. Jackson-Leach R, Lobstein T. Estimated burden of paediatric obesity and co-morbidities in Europe. Part 1. The increase in the prevalence of child obesity in Europe is itself increasing. Int J Pediatr Obes 2006;1:26-32.

LIQUID SUGAR IN THE DIET IS A MAJOR CAUSE OF WEIGHT GAIN

- In the US, soft drinks have now become the leading source of added sugar in the diet[1]
- Daily consumption of sugar-sweetened beverages (SSBs) by children can more than double the risk of overweight and obesity[2,3]
- In women, there is a direct correlation between weight gain and consumption of SSBs[4]



The consumption of sugar-sweetened and carbonated soft drinks, although a relatively recent addition to the diet has been increasing at an alarming rate - in the US, soft drink consumption has increased by 300% in the past 20 years.[1]

The relatively recent addition of SSBs to our diet provides a sense of the role of these beverages in the obesity epidemic, and indeed, studies have directly linked the consumption of SSBs to obesity.[2-4]

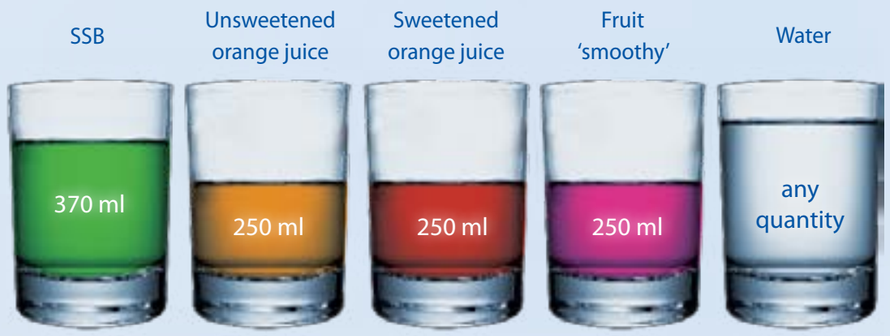
A prospective observational study conducted in school children showed that daily consumption of SSBs increased the risk of obesity by approximately 60%.[2] In women, a direct correlation has been found between SSB consumption and weight gain.[4]

1. Harrington S. The role of sugar-sweetened beverage consumption in adolescent obesity: a review of the literature. J Sch Nurs 2008;24:3-12. 2. Ludwig DS, et al. Relation between consumption of sugar sweetened drinks and childhood obesity: a prospective, observational analysis. Lancet 2001;357:505-8. 3. Dubois L, et al. Regular sugar-sweetened beverage consumption between meals increases risk of overweight among preschool-aged children. Am Diet Assoc 2007;107:924-34. 4. Schulze MB, et al. Sugar-sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women. JAMA 2004;292:927-34.

LIQUID CALORIES ARE 'HIDDEN CALORIES' THAT DO NOT SATISFY THE APPETITE

- Liquid calories do not satisfy the appetite like solid food[1]
- To burn off the calories in just one can of SSB (~150 calories) requires nearly 20 minutes jogging on a treadmill
- Many people may also be unaware that fruit juices and juice-type drinks, although they contain healthy vitamins, may also contain high sugar levels which can also contribute to weight gain and associated problems[2]

Relative calorie content of common beverages



Calories	150	105	135	140	nil calories

One reason for the increase in weight caused by sugar containing drinks is the low satiety of liquid food. Evidence indicates that intake of sugar-sweetened beverages is not compensated by reductions in intake of solid foods, resulting in a positive caloric balance and development of obesity.[1]

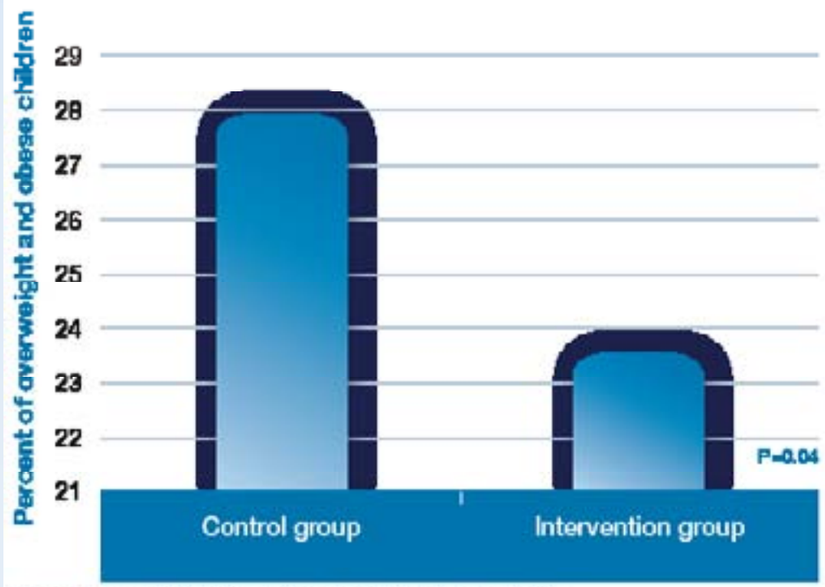
Traditional carbonated soft drinks may not be the only culprit. The benefit of fruit and vegetables in the diet is well known. Moderate consumption of fruit juices can also be beneficial to the diet; for example, most fruit juices contain vitamin C. It is not always recognised however that both natural fruit juice and fruit juice-type drinks (those containing a proportion of fruit juice) contain sugar, and as such, excessive consumption may lead to weight gain and associated problems.[2]

1. Schulze MB, et al. Sugar-sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women. JAMA 2004; 292:927-34. 2. Bazzano LA, et al. Intake of fruit, vegetables, and fruit juices and risk of diabetes in women. Diabetes Care 2008;31:1311-17.

DRINKING WATER LEADS NATURALLY TO REDUCED CONSUMPTION OF SSBS AND REDUCED LEVELS OF OBESITY

- Drinking more water can help reduce weight gain and obesity[1,2]
- Initiatives in Germany and the UK effectively reduced obesity in school children by increasing consumption of water and reducing consumption of carbonated beverages[1,2]

Reduction in proportion of overweight children after an initiative aimed at promoting water consumption as the sole beverage in school children[2]



Control group: not included in the drink intervention initiative
Intervention group: after 10 months of intervention initiative

Higher consumption of soft drinks leads to lower consumption of water. This was eloquently demonstrated in a UK intervention study aimed at reducing the number of overweight school children by reducing consumption of carbonated soft drinks (CSD). The outcome from this study was both a reduced consumption of CSD and number of overweight school children, and a corresponding increase in consumption of water.[1]

An initiative in Germany aimed at promoting consumption of water as the sole beverage effectively reduced the prevalence of overweight school children.[2]

1. James J, et al. Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomised controlled trial. BMJ 2004;328:1237. 2. Muckelbauer R, et al. Promotion and Provision of Drinking Water in Schools for Overweight Prevention: Randomized, Controlled Cluster Trial Pediatrics 2009;123:e661–e667.