CHILDHOOD OBESITY IN CARICOM - BURDEN AND DRIVERS

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BURDEN OF CHILDHOOD OBESITY
## Highest Female (15yr+) Overwt/Obesity in the World (WHO 2011)

<table>
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<tr>
<th>Rank</th>
<th>Country</th>
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<tr>
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<td>Jamaica</td>
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% Childhood Obesity (> +2SD from median BMI) by gender: from Global School Health Survey (2009-2013)

Bahamas
British Virgin Islands
Bermuda
St. Kitts
Barbados
Trinidad & Tobago
Belize
Dominica
Suriname
Jamaica
Guyana

Obese (%F)  Obese (%M)
Many U.S. kids are overweight or obese, and most don’t exercise.

1 in 3 children and teens age 2 to 19 are considered overweight or obese.

2 out of 3 don’t get any daily physical activity.

96% of elementary schools offer no physical education classes.

7 hours is the amount of time kids spend in front of TV or computer screens daily.

WHO Global School Health Survey (GSHS) 2012 (26 schools in Barbados)

- 31.5% overweight
- 14.4% Obese
- 70% low levels of physical activity
- 65.3% Sedentary lifestyle after school

Girls were at a slightly higher rate of overweight and obesity when compared to boys.
Barbadian Children 9 and 10 years in 2010 (Gaskin, P)

- 33% of 9-10 year old were overweight/obese
- 12% had high blood pressure (4,000+ children)
- Blood pressure was related to body size
- Children were almost 3 times more likely to be OWOB if annual household income <BBD 9000
- Eating dinner with the family every night was associated with 45% lower rate of OWOB
HEALTH IMPACT OF OWOB
Obesity
Health Risks

- Diabetes (Type 2) – 10 fold increase
- Hypertension and Heart Disease
- Neurologic Complications
- Respiratory Disease
- Orthopedic Condition
- Psychosocial Disorders
- Hyperlipidemia
- GI Manifestations
- Menstrual Disorders
Obesity
Psychological Disorders

- Difficult to quantitate
- Stigmatization
- Low self esteem
- Depression
- Discrimination
Complications Specific to Children ...

- **Persistence of Obesity at Adulthood:**
  - Overweight adolescents have a 70% chance of becoming overweight adults.
  - Increases to 80% if one or both parents are obese.

- **Obese 6 year old has a 25% chance of becoming obese adult**

- **Obese 12 year old has a 75% chance of becoming an obese adult.**
• Premature deaths from obesity and overweight, 2\textsuperscript{nd} only to tobacco-related deaths in USA.

• Obesity would surpass tobacco as the leading cause of death worldwide in the next decade.

• Obesity is the leading cause of premature death in Barbados
IN ALL AGE GROUPS
OBESITY HAS LEFT ITS MARK

Nutrition & Death in the Caribbean

Heart disease
Cancer
Diabetes
Hypertension
Stroke

57% mortality is nutrition related
DRIVERS OF CHILDHOOD OBESITY
Evolution of the Problem
% Physical activity for 60 minutes/day during last 5/7 days from GSHS (2007-2013)

- Antigua & Barbuda
- Trinidad & Tobago
- Barbados
- British Virgin Islands
- Belize
- Suriname
- St. Kitts
- Dominica
- Bahamas
- Guyana
- Montserrat
- St. Lucia
- St. Vincent & Grenadines

![Bar graph showing physical activity data for different countries](image-url)
Myth v. Truth

- **Myth:** just exercise more and eat what you want.

- **Truth:** exercise alone generally won’t work (it takes 2 hours of brisk walking to burn off 500 calories – small chocolate and small pack of chips).
Obesity: Environmental Factors: Increased Energy Intake

- Increased intake foods
  - Sweeteners, salt, & fat
  - Processed foods,
  - Refined carbohydrates
  - Snacks
- Reduced intake of fruits and vegetables
- Increased beverage
  - Access, low price
- Supersized portions
- Eating out
- Marketing
Obesity: Environmental Factors: Decreased Energy Expenditure

- Excess TV; computer, & play station time
- Children are home alone
- Decreased physical activity at school & at home
- Transportation by car or school bus
- Neighborhood safety
- Few public parks, sidewalks, swimming pools ..etc
- Sedentary Lifestyle
Childhood Obesity

Environmental Factors: TV

- 25 hours/week
- Half the ads are for food
- Obesity increases 2% /hour of viewing
- Strongest predictor of subsequent obesity
TRANSITION TO PROCESSED FOODS
Corporations Control Almost Everything You Buy

This Chart Shows How
Commercial determinants of health

• Multinational food and beverage companies promote overconsumption of highly processed, unhealthy food and sugary drinks for profit

• Like tobacco, marketing is shifting from high income countries to developing countries, including in the Caribbean


Unhealthy food companies target children
Just like the tobacco industry, the food, soda and alcohol industries are driving the 21st century’s deadly NCD pandemic.

Increased consumption of processed foods and drinks — those containing high levels of added sugars, salt and fats — tracks closely with rising levels of obesity, diabetes and cardiovascular diseases across the world.[4]
Figure 12. Food imports into CARICOM countries, 1990-2011 (US$ million)

Source: FAOSTAT, 2015.
Obesity (%) and the caloric share (%) of ultra-processed products

\[ y = 0.2701x + 9.7782 \]

\[ R^2 = 0.6582 \]
• Why is everyone talking about sodium?
Salt intake and obesity

• High dietary salt increases thirst and fluid consumption.
• Many of the fluids consumed contain simple sugars or alcohol and contribute to caloric intake.
• 20-30% of the excess calories consumed by children and adolescents are through increased beverage consumption associated with high salt intake.
• Therefore high salt diets are likely to be a significant factor in the obesity epidemic.
• All types of salt are high in sodium.
  • Kosher salt, sea salt etc = same amount of sodium as table salt (not healthier)
• Healthy adults need only 1500 mg of sodium per day.
• Healthy children need only 1000-1500 mg of sodium per day.
• We consume double the amount we need
Where in our diet does salt come from?

In regions where most food is processed or eaten in restaurants

- 12% natural content of foods
- "hidden" salt: 77% from processed food – manufactured and restaurants
- "conscious" salt: 11% added at the table (5%) and in cooking (6%)

ADDED SUGAR
Trends in sweetened drink consumption

Stuckler and Nestle 2013
The Caribbean has been estimated to have the highest SSB consumption in the world with an estimated 2 SSB/person/day (Jou & Techakehakij, 2012).
% Drank carbonated soft drinks during the past 30 days from GSHS (2009-2013)

- Suriname
- Barbados
- Jamaica
- Trinidad & Tobago
- Guyana
- Bahamas
- Belize
- British Virgin Islands
- Anguilla
- St. Kitts
- Antigua & Barbuda
- Dominica

- Carbonated Soft Drink (%F)
- Carbonated Soft Drink (%M)
Obesity and SSBs

• The association between SSB consumption and weight gain is stronger than for any other food or beverage (Lavin, Timpson 2013)

• SSB is the leading cause of obesity, diabetes and heart disease in both adults and children


The connection between sugar and obesity
Fruit drinks...just as much sugar as soda
Drinking one 12 oz. (355 mL) soft drink every day for a year:

≈150 calories × 365 days = 54,750 calories per year, the energy equivalent of over 15 pounds of fat per year

To avoid weight gain:

To burn off the calories from an 12 oz. sugary drink, the average person would have to walk 1.5 miles

One 12-oz can soda contains over 9 tsp sugar
Added sugar in drinks

• Calories from simple sugars added to drinks do not satisfy hunger, there is no feeling of fullness
  – *Wasted calories*

• Sugar in SSBs contain no nutrients
  – *Empty calories*

• Sugar in SSBs are absorbed extremely rapidly causing a spike in blood sugar and in insulin
  – *Dangerous calories*
HIDDEN SUGARS IN LABELS & PRODUCTS

LABELS WITH SUGAR:
Lactose; brown rice syrup; molasses; dextrose; cane sugar; corn sweetener; fructose; glucose; maltose; organic raw sugar; maltodextrin; etc..

PROCESSED FOODS WITH SUGAR:
Barbecue sauce; bacon; bread; canned meats; cereals; crackers; gravy; flavored coffee; creamers; fruit juice; ketchup; mustard; pancake mix; pretzels; salad dressing; soups; soy sauce; wine; etc. etc.
BUT WE’RE SURROUNDED BY SUGAR! IT’S EVERYWHERE! AND IT’S SO TASTY!
Born to buy: How advertising targets young consumers

Dr Emma Boyland

Biopsychology Research Group
Liverpool Obesity Research Network
University of Liverpool
ADVERTISING AVENUES
Television and film

Programme sponsorship

Product Placement
Internet advergaming
Event sponsorship
Promotional Characters

Licensed characters
Premium offers/giveaways
EFFECTS OF FOOD ADVERTISING
Television and energy intake

Television viewing has been associated with:

- Increased meal frequency (Stroebele & Castro, 2004).
- Fast food consumption (Taveras et al., 2006).
- Snacking (Snoek et al., 2006; Thomson et al., 2006).
- Increased intake of dietary fat (Epstein et al., 2005; Miller et al., 2008).
- Lower intake of fruit and vegetables (Boynton-Jarrett et al., 2003).

6 months: Forming mental images of corporate logos and mascots.

2 years: Children may already have beliefs about specific brands.

3 years: Already making specific requests for brand name products. Can identify brand names & logos especially with cartoon characters.

Lifetime: A lifetime consumer in the US is worth an estimated $100,000 to a retailer.

Children start to express self-care activities including food choice between ages of 3-8 and these are stable by 9-11 years (Kennedy, 2000).

Brand-building must therefore start in toddler-hood (Story & French, 2004).
Impact of Marketing to Children

• Nestle and others still promoting breast milk substitutes and depressing breast feeding rates
• Marketing influences childrens’ preferences, requests, consumption
• Result: 30% childrens calories from sweets, drinks, salt snacks, fast food
Partnerships and Reformulation

• Must work with private sector
  – They feed the population, not us
  – Implementation of warning labels and nutrition information
  – Conflict of interest recognized and addressed

• “Friendly” private sector
  – Making profit from selling healthy foods
  – Farmers, retailers, healthy food vendors

• Reformulation – trust but verify