Challenges in Consumer Behaviour Change based on Colour Coding System for Beverages as a NCD Control Mechanism in Sri Lanka

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Discussion Points

- Introduction of country
- Background to colour coding regulations for beverages
- Objectives of study
- Method and results
- Findings
- Recommendations

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Introduction of Country

- A small beautiful island in Indian ocean
- Capital: Colombo
- Area: Apprx 62 700 sq km
- Population: 21.4 Mn (2017)
- Population density: 342 persons per sq km (2017)
- GDP: 87.2 Bn USD (2017)
- GDP per capita: 4065 USD (2017)
- Literacy rate: 95.7%
- Life expectancy at birth: males 72, females 78.6 (2013, 2011)
- Free health care system: with 631 state hospitals (2015)
- With 80 581 hospital beds (2015)

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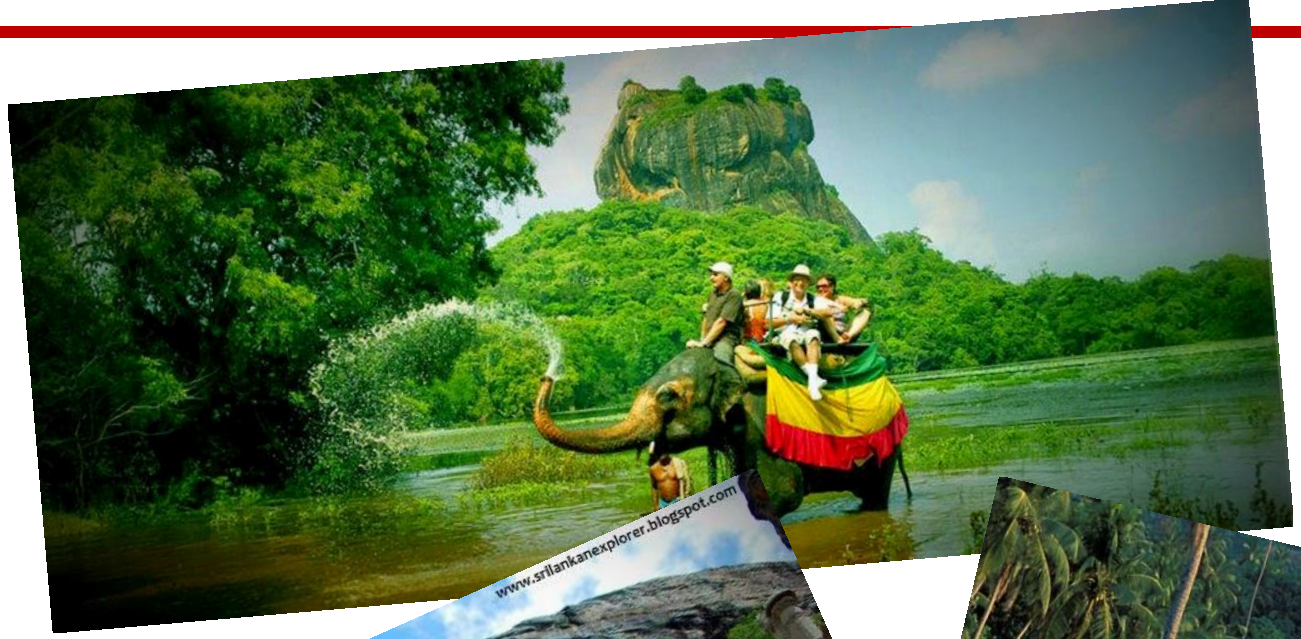
Source: Central Bank Annual Report, Annual Health Bulletin



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Background to colour coding regulation for beverages

- Sri Lanka has enjoyed open economy for 40 years (since 1977)
- A transition of socio economic conditions
- A vast amount of fast food, convenient food available in market
- Consumption of ‘take away’ convenient foods for dinner has become a trend among urban families
- Increasing affordability among upper and middle classes
- More and more convenient food stores coming up!
- No restriction at the moment on advertising and promotion

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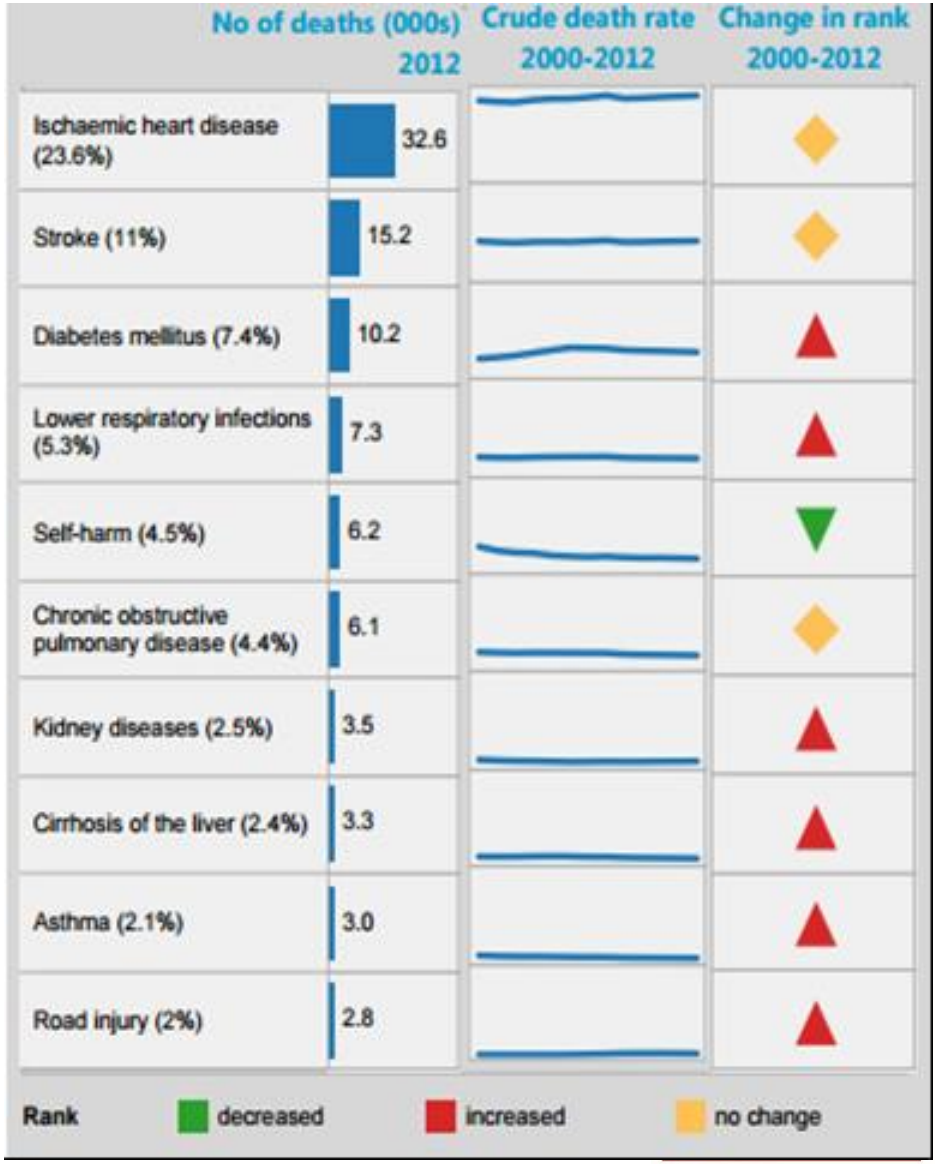
Background to colour coding regulation for beverages

- An increasing tendency of non-communicable diseases (NCDs)
- In 2014, 75% of all annual deaths due to NCDs
- NCDs (CVD, diabetes, cancers, respiratory diseases)
- 20% of population is either diabetic or pre-diabetic
- 18.6 % diabetic in Western province (includes Colombo) [2011 National Study]
- 25.2% population overweight
- 9.2% obese
- 26.2% centrally obese



Source: National Multi-sectoral Action Plan, Katulanda et al

Table 23. Leading Causes of Hospital Deaths by District, 2015

Disease and ICD (10th Revision) Code / District and Rank Order		Sri Lanka	Colombo	Gampaha
Ischaemic heart disease	(I20 - I25)	1	2	1
Neoplasms[1]	(C00 - D48)	2	1	8
Zoonotic and other bacterial diseases	(A20 - A49)	3	3	6
Diseases of the respiratory system excluding diseases of upper respiratory tract , pneumonia and influenza	(J20 - J22, J40 - J98)	4	4	5
Pulmonary heart disease and diseases of the pulmonary circulation	(I26 - I51)	5	5	3
Cerebrovascular disease	(I60 - I69)	6	6	4
Pneumonia	(J12 - J18)	7	9	7
Diseases of the urinary system	(N00 - N39)	8	8	9
Diseases of the gastro-intestinal tract	(K20 - K92)	9	7	2
Traumatic injuries	(S00 - T19, W54)	10	11	10

Source: National Health Bulletin 2015

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Diabetes Map of Sri Lanka

18.6% Western Province Population diabetic

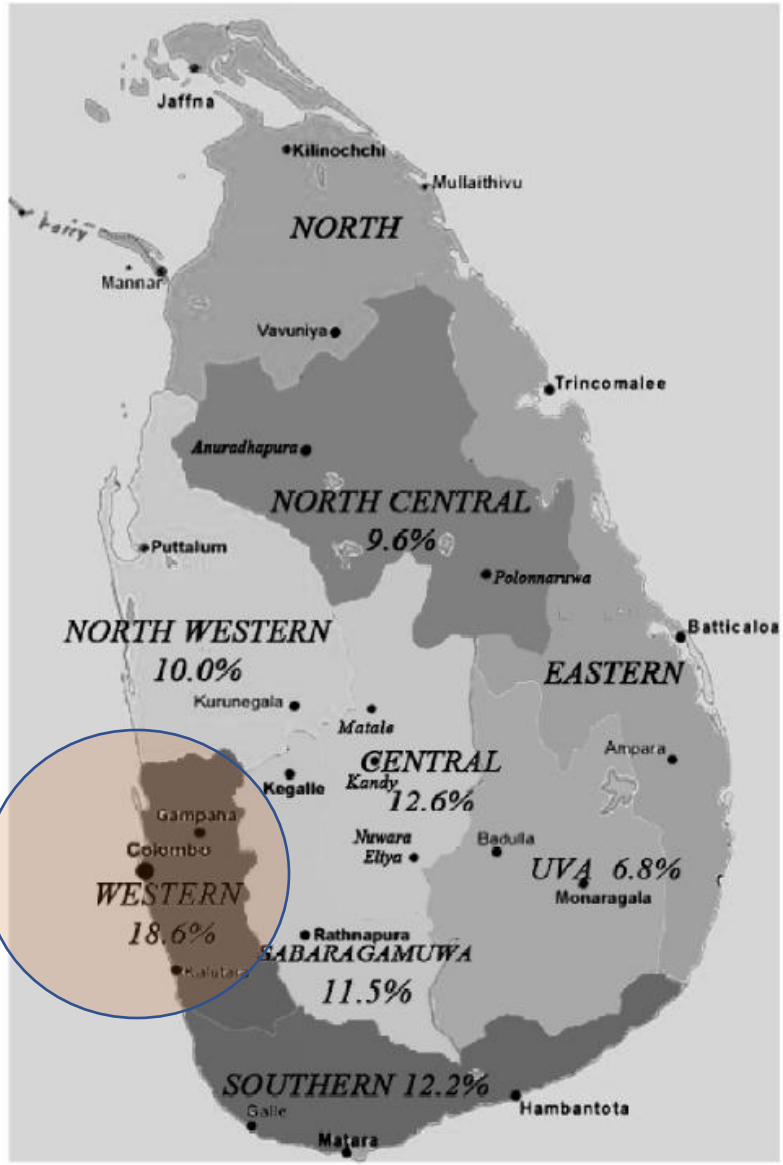

Figure 1. Diabetes map of Sri Lanka.

Source: Katulanda et al, 2011

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Background to colour coding regulation for beverages

- Ministry of Health National Multi-Sectoral Action Plan proposes to achieve several health goals
- 25% relative reduction in premature mortality from CVD, cancer, diabetes, or chronic respiratory diseases

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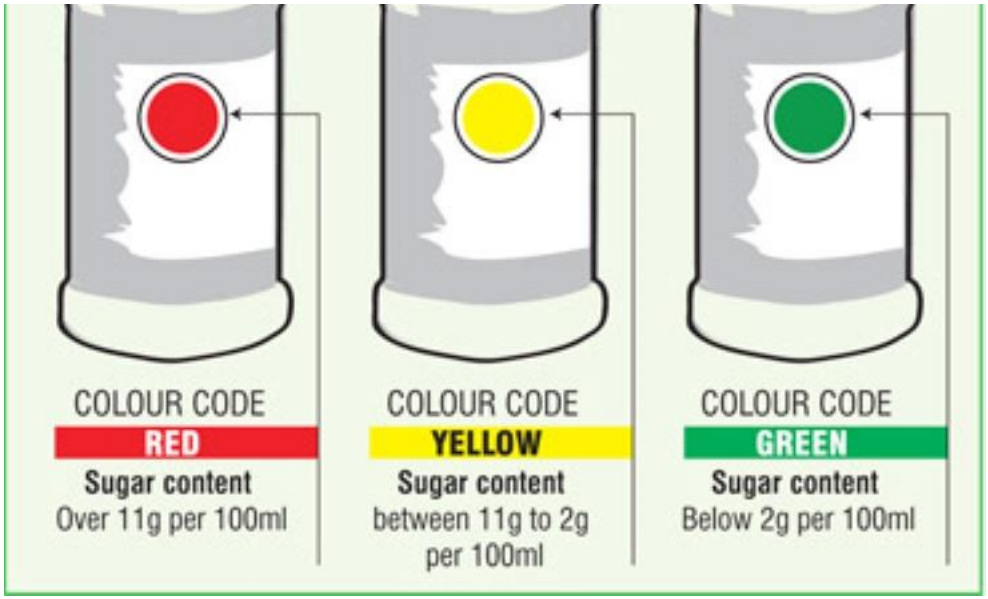
Background to colour coding regulation for beverages

- A colour coding regulation for sugar implemented for beverages from 1st Aug 2016
- Types of beverages covered
- Carbonated beverages
- RTS other than milk based products
- Fruit nectars
- Fruit juices



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Objectives of the Study

- Understand the level of awareness of colour coding system for beverages in the population
- To study the ability of colour coding system on beverages to create behaviour changes in the population

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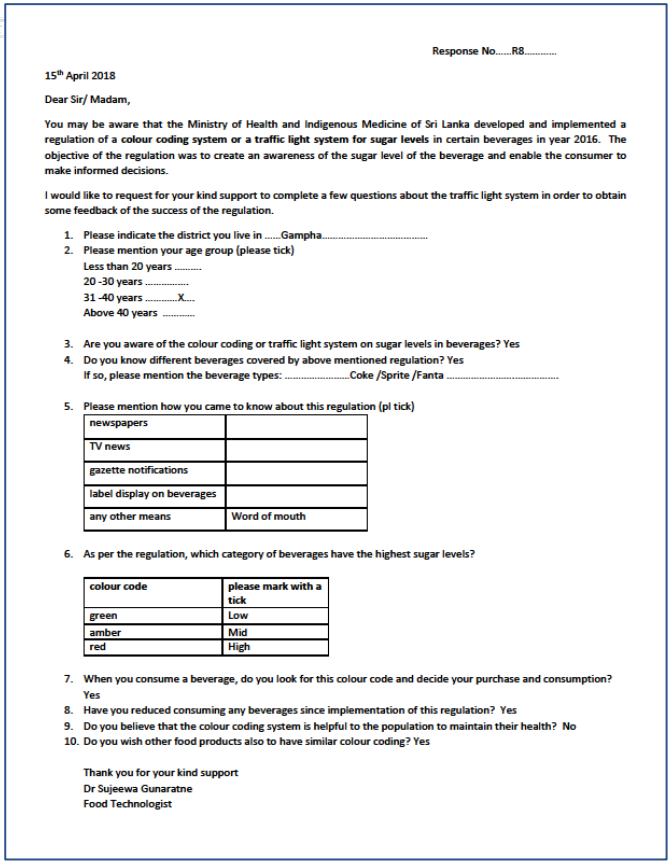
Method & Results

- A convenience sampling method adopted
- Questionnaire on colour coding system distributed among population in Western Province (Colombo, Kalutara, Gampaha districts)
- Western is the most populated district, including the capital
- A few respondents from adjoining districts
- Questionnaire distributed by e mail, use of snow balling method, and manual completion
- 125 questionnaires issued, 71 responses received



Response No.....R8.....

15th April 2018

Dear Sir/ Madam,

You may be aware that the Ministry of Health and Indigenous Medicine of Sri Lanka developed and implemented a regulation of a **colour coding system or a traffic light system for sugar levels** in certain beverages in year 2016. The objective of the regulation was to create an awareness of the sugar level of the beverage and enable the consumer to make informed decisions.

I would like to request for your kind support to complete a few questions about the traffic light system in order to obtain some feedback of the success of the regulation.

1. Please indicate the district you live in .....Gampaha.....
2. Please mention your age group (please tick)
   Less than 20 years .....
   20 -30 years .....
   31 -40 years .....X....
   Above 40 years .....
3. Are you aware of the colour coding or traffic light system on sugar levels in beverages? Yes
4. Do you know different beverages covered by above mentioned regulation? Yes
   If so, please mention the beverage types: .....Coke /Sprite /Fanta .....
5. Please mention how you came to know about this regulation (pl tick)

newspapers	
TV news	
gazette notifications	
label display on beverages	
any other means	Word of mouth

6. As per the regulation, which category of beverages have the highest sugar levels?

colour code	please mark with a tick
green	Low
amber	Mid
red	High

7. When you consume a beverage, do you look for this colour code and decide your purchase and consumption? Yes
8. Have you reduced consuming any beverages since implementation of this regulation? Yes
9. Do you believe that the colour coding system is helpful to the population to maintain their health? No
10. Do you wish other food products also to have similar colour coding? Yes

Thank you for your kind support
Dr Sujeewa Gunaratne
Food Technologist

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Method & Results

1. The districts of respondents' residence was as follows

Respondent district	%
Colombo	48
Gampaha	31
Kalutara	17
Ratnapura	04

2. Age breakdown of respondents

Age of respondent	Number	%
< 20 yr	10	14
20-30 yr	28	39
31-40 yr	21	30
> 40 yr	12	17

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Method & Results

3. Awareness of colour coding regulation for beverages

Awareness	%
Yes	68
No	32

Age of respondent	% not aware
< 20 yr	50
20-30 yr	48
31-40 yr	08
> 40 yr	20

4. Awareness of different beverage types covered by the regulation

Awareness of types	%
Yes	0
No	100

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Method & Results

5. Method of knowing the regulation

Awareness method	%
Newspapers & TV	40
Gazette notifications	0
Label display on beverages	80
Any other means *	30

6. Knowledge of colour code with highest sugar level

Knowledge on highest sugar level	%
Identified Red code	98
did not identify Red code	02

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Method & Results

7. Is purchase and consumption based on colour code on beverages?

Age of respondent	% not considering colour code
< 20 yr	22
20-30 yr	31
31-40 yr	35
> 40 yr	07

	Consider colour code?
Yes	76 %
No	24 %

8. Reduced consuming any beverages since this colour code regulation?

Consumption reduction?	%
Yes	54
No	46

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Method & Results

9. Will colour coding system be helpful to the population to maintain health?

Is colour coding system helpful	%
Yes	85
No	15

10. Do you wish other food products to have colour coding?

Colour coding for other food?	%
Yes	100
No	0

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Method & Results

- **In Depth Interviews**
- Interview with respondent who didn't show behaviour change said that a healthy diet is based on overall balanced food intake, not just controlling sugar intake, hence not willing to change beverages taken purely on impulse
- Interview with respondent who changed behaviour said colour code helps to know which drink has more sugar, and when purchasing a drink, a choice can be made to select one with less sugar

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Findings

- Were consumers aware of colour coding system for beverages? Yes
- Was the colour coding system able to create behaviour changes in population? ` Not at satisfactory level
- research on behaviour change and healthy foods (Chance et al 2014) explains that long term goals/ preferences are thwarted by immediate desires

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Immediate desires

Long term goals and preferences

Behave

Prefer

Control Impulse
Take time to decide/ act

Eat unhealthy

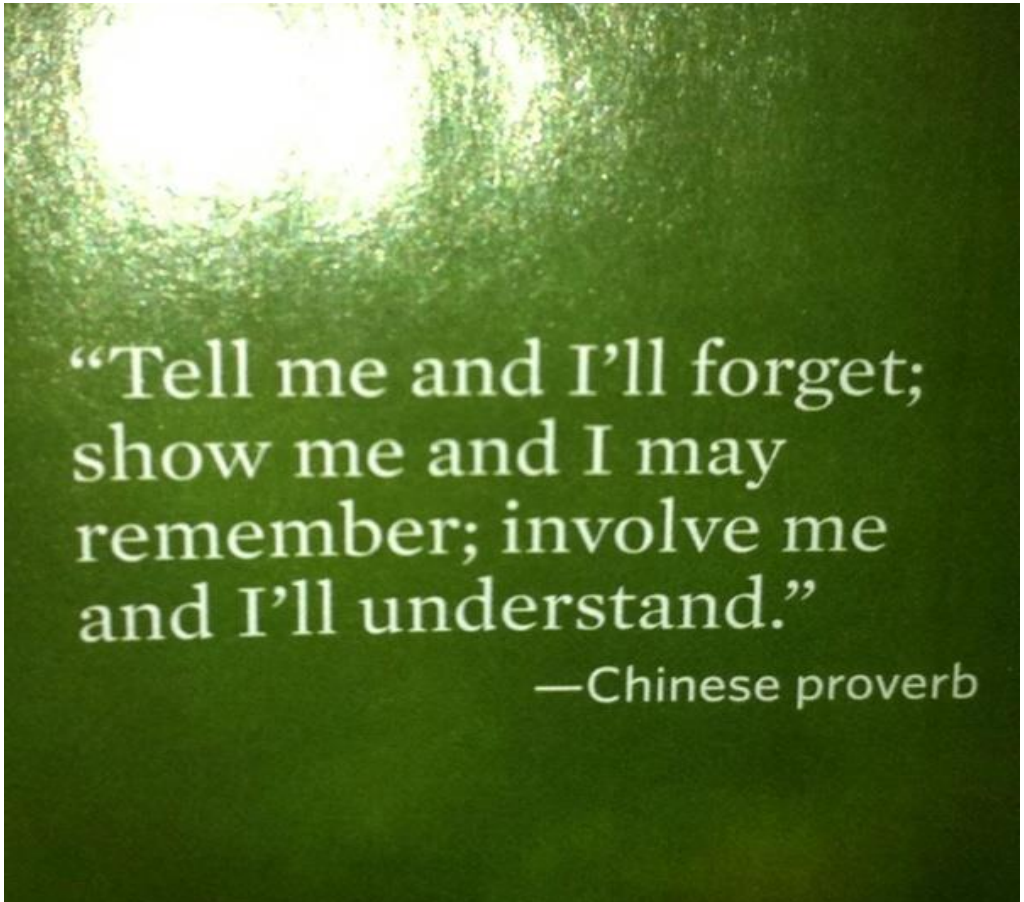
Impulse
Act without thinking

Behaviour change interventions

Eat healthy

Recommendations

- More grass root level activities such as community training programs, school curriculum changes, behaviour change activity programs needed to generate behaviour changes in sugar reduction



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