

Journal of **Modern Hospitality** (JMH)

Influence of Parent Attitude toward Consumption of Sugary Products by their Children. A Critical Literature Review



CARI
Journals

Influence of Parent Attitude toward Consumption of Sugary Products by their Children. A Critical Literature Review

Dr. Josiah Mutembei

Kenyatta University, School of Hospitality

Corresponding author's email: journals@carijournals.org

Abstract

Purpose: The hospitality industry is one of the largest employers and among the highest revenue earners in Kenya. The overall objective of this study was to examine influence of parent attitude toward consumption of sugary products by their children.

Methodology: The paper used a desk study review methodology where relevant empirical literature was reviewed to identify main themes and to extract knowledge gaps.

Findings: This study concluded that established that frequency of consumption of Sugar products varies depending on the type of beverage, and that overall, the more than half of the students' surveyed reported consuming high amounts of sugar-sweetened beverages. Observations from the study showed that energy drinks were the least consumed while sugar-sweetened beverages like tea, coffee and cocoa were the most highly consumed sugary products. By volume, 300ml packing was most preferred by all respondents across all classes of study. Moderate nutritional knowledge on possible effects of sugary products such as weight gain and dental erosion was observed among respondents.

Unique Contribution to Theory, Policy and Practice: This study recommended that the ministry of health in conjunction with the ministry of education to incorporate nutritional literacy in the education programs both to the parents and the children to be aware of the demerits of consuming sugary products. This will also contribute to change in attitude and eventually change in behavior.

Keywords: *Examining, Influence, Parent Attitude, Consumption, Sugary, Products, Children.*

INTRODUCTION

Attitude is a preferential way of behaving or reacting in a specific circumstance or a liking or dislike for an item (Sarto et al, 2011). They can be positive, negative or neutral views of an object. Attitude is one of the key determinants of food choices and consumption. It is determined through an assessment of one's beliefs regarding the consequences arising from behavior and an evaluation of the desirability of these consequences. Some of the known attitudes associated with food are seen when food choices are triggered by sight, leading to the purchase of attractively packaged foods without considering health implications (Kinyua, 2013). Factors such as aesthetic values of food or health benefits of food, influence the intention of an individual towards consumption of certain foods and sensations towards foods differ from one individual to another, for example, one may find a food to be too sweet, while another may not perceive it the same (Sartor et al., 2011). Consumer attitudes towards sugary products, therefore, influence their purchasing and consumption behavior. Positive attitudes towards healthy food choices have been influenced by the nature of the environment. School setups to provide a conducive environment to promote a positive attitude and lifestyle choices in enhancing society health for students are viewed as change agents (Kinyua, 2013). In another study carried out at a Nigerian University, it was found that many of the youths perceived sugary products as social drinks and majority had a positive attitude towards SSBs consumption (83.5%) and consumed them regularly despite their awareness of health implications of excessive consumption (Fadupin and colleagues, 2014). Wrong perceptions towards food may lead to wrong food choices because the food is mainly changed from a means of nourishment to a marker of lifestyle and a source of pleasure as portrayed by the media (Mbithe and colleagues, 2015).

According to the Centre for Disease Control and Prevention (CDC), sugary products are defined as water- based beverages to which sugar has been added and include soft drinks, fruit drinks, sports drinks, tea and coffee drinks, energy drinks, sweetened milk or milk alternatives (CDC, 2013). They contain caloric sweeteners mainly high fructose corn syrup (HFC). Despite recommendations by medical experts and health organizations to limit consumption of sugary products, their sales have been increasing worldwide especially in low and middle-income countries (WHO, 2015). According to WHO's recommendation, a person should not take more than 10 teaspoons of sugar per day. The average amount of sugar in a 330ml soft drink can is eight teaspoons (WHO, 2015). The American Heart Association (AHA) recommends that added sugars in the diet should not exceed 100 calories (25g) per day for women or 150 calories (37.5g) for men, which is an equivalent of 5-6% of dietary energy.

This is emphasized by Nita, et al (2014), who expressed that daily intake of sugary products should be less than 5% of our total energy intake, whereby children between 4-7yrs should not take more than 19g (5teaspoons) of sugar daily. Those who are 11 years to adults should not exceed 30g (7teaspoons) of sugar. Previous studies have shown that the rate of consumption of sugary products is increasing among the general population most especially young adults and adolescents

in developing and developed countries (Fadupin and colleagues 2014). Renata (2012) in his study among the youths in Nigeria found that adolescents aged 13-19 are the highest consumers of sugary products. Consumption of sugary products is associated with many health conditions such as Type 2 diabetes, cardiovascular diseases, elevated uric acid levels, gout, and dental caries overweight and obesity (CDC, 2013). These negative health and life consequences associated with excessive calories and sugars have made sugary products attract increasing scholarly attention both in developed and in the developing world including Africa. For example, studies carried out both in Sudan and South Africa found a strong relationship between sugary products consumption and development of dental caries (Stelyn and Temple, 2012).

A cross-sectional study by Avery and others (2015) among the adolescents in Europe revealed that sugary products provided more daily energy intake (30.4% of total beverage intake) than any other beverage. In another study conducted in South Africa, the consumption of sugary products was found to be very high among the adolescents and the sales and availability of these beverages was projected to grow at an annual rate of 2.4% between 2012 and 2017 if no preventive measures were taken to curb the high consumption (Tugendhafta et al., 2015). A study carried out in Kenya found that sugary products consumption is high among school going children and could lead to overweight and that Vitamin C is not present in many of the sugary products although nutritional information on the packages indicates its presence (Ombongi, 2013). In another study conducted among primary school children in Nairobi, it was found that even though the study children had some level of knowledge on the effects of unhealthy diet like sugary products consumption, they still consumed them (Mbithe, et al., 2015). There is a paucity of data on the parental attitude towards consumption of sugary products by their children.

Statement of the Problem

Sugary products are considered to be the cause of energy intakes above the individual requirements and this has been associated with various diet-related health problems such as obesity and overweight, Type2 diabetes, gout, dental caries, mental health problems cardiovascular diseases, cancers and blood pressure (Nita et al.,2014). In Kenya, the prevalence rate of diabetes is estimated to be 4.2% nationally (Republic of Kenya 2012). Hypertension is estimated at 13% of the population and obesity affects 25% of all Kenyans (Republic of Kenya 2012a). According to the District Health Records Information System (DHRIS) in Likuyani Sub-County the prevalence of Diabetes stands at 4.3% which is slightly above the National prevalence (DHRIS, 2016). The prevalence rate of High blood pressure was 10% of the population. Most of the studies on SSBs have been carried out in developed countries. In Kenya, studies on sugary products consumption have been done among school going and Primary school pupils. The scarcity of data limits explanation of the, parental attitude and the consumption of sugary products by their children is scanty hence the need for this research in Kenya. This study will therefore examine influence of parent attitude toward consumption of sugary products by their children.

Objective of the Study

The overall objective of this study was to examine influence of parent attitude toward consumption of sugary products by their children.

Significance of the Study

It is anticipated that the findings of this study will help parent to generate preventive measures to rescue their children from adverse effects of sugary products. If established that students have high nutrition knowledge on sugary products, then they will act as tools to guide and influence the behavioral change of the youths towards consumption of the sugary products and therefore lessen diet-related problems and promote their health. The findings obtained from the study will be useful for food industries and manufacturers in developing new products and to modify existing products of sugary products based on consumers' preference. The study will also provide data important for health educators when implementing health-related programmes in institutions. It will provide data for healthcare providers for planning health education for schools. The data will also help the society as a whole to be aware of the health risks of consuming added sugars so as to reduce their intake. Policy makers will use the data to develop interventions discouraging youths from consumption of sugary products, and the manufacturers will utilize the data to produce healthier drinks. This therefore underpins the need for this study that allowed for exploration of influence of parent attitude toward consumption of sugary products by their children.

LITERATURE REVIEW

Consumption of sugary products

Sugar-sweetened beverages are water-based beverages which may either be carbonated or non-carbonated containing added sugar. They include soda, fruit drinks, sports drinks, energy drinks, sweetened tea and coffee drinks (Tungendhaft et al., 2015). They are liquid carbohydrates which lead to an increase in the total energy intake since liquid sugar may have less capacity to induce satiety and their consumption may not be compensated by reduced caloric ingestion from other sources (Carmen et al., 2015). The consumption of SSBs has been increasing globally, according to a study conducted in the United States by Han and colleagues (2014). According to the study, the black children and adolescents showed higher odds of heavy SSBs consumption (odds ratio 1.71 and 1.67) than whites. Low-income children and adolescents had a heavy total SSBs consumption (odds ratio 1.93) and a higher energy intake of SSBs (27kcal/day) than high-income children and adolescents. Soda was reported to be the most heavily consumed (>500kcal/day) SSB among the adolescents. Ventura and colleagues (2010) reported high daily consumption of sugar-sweetened beverages in U.S.A in both adults and children to about 175kcal and 172 kcal respectively leading to increased energy intake from 50kcal to above 200kcal between 2005 and 2006.

A cross-sectional study by Avery and others (2015) among the adolescents in Europe revealed that SSBs provided more daily energy intake (30.4% of total beverage intake) than any other beverage.

In another study conducted in South Africa, the consumption of SSBs was found to be very high, the sales and availability of these beverages was projected to grow at an annual rate of 2.4% between 2012 and 2017 if no preventive measures were taken to curb the high consumption (Tugendhafta et al., 2015). Kenya is one of the socioeconomically less developed countries, the level of sugar consumption has been increasing, which is seen to be due to the change to a Western-style diet (Kinyua, 2013). Mbithe et al., (2015) in a study on the dietary practices of school going children in four urban schools in Nairobi found that over 70% of the pupils had consumed sugar-sweetened beverages. 28% of them consumed sweetened drinks between 4-7 days in a week. The sweetened drinks consumed by the study children were sodas and fruit juices like Afia, Quencher and Minute Maid. In a comparative study conducted in Kenya and India, it was found that in India, peer groups are more powerful in influencing potential consumers to take soft drinks while in Kenya, parents play a crucial role (Mise, et al., 2012).

Fruit juices which are mainly flavored water are easily accessed across the country and at the gates of most schools. Del Monte Kenya has introduced an economy pack which is affordable for all consumer income groups. Mini- Coca-Cola brand costing fifteen Kenya shillings has been introduced by Coca-Cola East and Central Africa. These attract more customers because of their lower prices. Production of soda is increasing and this is a sign of a rise in consumption, with customers now enjoying lower prices. Advertisements and vigorous marketing strategies have made soft drinks very popular hence making children to prefer them compared to the nutritious drinks (Mise et al., 2012).

Consumers' Nutrition Knowledge about Sugary Products

The level of SSBs consumption is determined by nutrition knowledge one has, among other factors. Awareness on how to meet nutritional needs enables one to make informed decisions about food choices that enhance health and wellness by preventing excess intake of nutrients that could be associated with ill health, such as those low in fats and sugars (Pieniak et al, 2010). Increased knowledge of food value improves dietary practices whereby people understand how to utilize a healthy diet for greater benefits to their health. Nutrition knowledge is important in promoting healthier eating habits because it enables people to make proper food choices despite advertisements that are tempting (Mbithe et al., 2015).

Mbithe et al. (2015), further explored the nutrition knowledge, attitude, and practices among urban primary school children in Nairobi. The study found out that almost half of the respondents had moderate nutrition knowledge (49.5%) and that 28% of the children consumed sweetened drinks 4-7 times in a week. Most of the respondents knew that sugars sweets and sweet foods are not good for body health therefore, there was no significant relationship between nutrition knowledge ($p>0.05$) with practices on consumption of sweetened beverages because despite majority of the respondents having moderate knowledge on the health risks of sugary drinks they still continued to consume them. Consumers also need to know what to look for on labels and ingredient lists so that they make the best choices (Rampersaud, 2014).

Rampersaud, (2014) also found out that there was a lack of knowledge among consumers regarding the healthiness of various categories of SSBs. Many of the participants believed other drinks that have comparable amounts of added sugars such as fruit drinks, sports drinks, and energy drinks were healthier than soda. Only a few reported correctly that all these drinks contain added sugars and so are less healthy. Consumption of SSBs is associated with many health problems and therefore consumer nutritional knowledge on the effects of these beverages on their health is required for them to make healthy food choices (Gase, et al., 2014). According to Gase et al., (2014), knowledge on the recommended amounts of added sugars in our diets and even the amount of sugar in the SSBs consumed may be lacking. The American Heart Association (AHA) recommends that added sugars intake should not exceed one serving per day.

Demographic Factors and Consumption of Sugary Products

Age, gender and parenting style (permissiveness or strictness) may influence consumption behavior of consumers. Parents influence the availability of SSBs at home. Both the availability of SSBs and the family food rules for consumption of the beverages provide conditions that might influence their intake at home and this makes home food environment of great importance because youths consume a lot of SSBs at home. Parents are finding it difficult to control their school-going children's thirst for squash, sodas, Coca-Cola and other artificially flavored drinks. They are giving into their children's demand for these drinks instead of milk or tea as preferred foods. A widespread taste for carbonated drinks, French fries, burgers, pizzas, and other fast foods is the manufacturers focus on producing mass brands to target majority of the population. In a study conducted among secondary school students in Tanzania, it was found that an adolescent having a parent with a high education level and wealthy was positively associated with increased consumption of sugary drinks at the frequency of 53.2% weekly soda drinking (Kasusu and Nyamurye, 2012). In another study carried out in the U.S consumption was lower among children with high-income parents and lower in parents with high education levels (Zoellner et al., 2012). Kasusu and Nyamurye (2012) also found out that female respondents consumed more sugary drinks than the male in Tanzania. A study conducted in the U.S by Nesheim and Nestle, (2012), found that the male consumed nearly twice as many sodas as women (14 ounces as compared to 8 ounces a day). The study also indicated that, older youths drunk more SSBs than younger ones. Children aged 2-5 years drunk on average 6 ounces a day while adolescents aged 12-19 drunk 22 ounces per day on average.

Empirical Review

Amoke (2014), conducted a study to investigate the factors that affect performance in FBCC. Data was collected using questionnaires and observation schedules. The sample consisted of 25 lecturers and 120 students undertaking Craft Course in Food and Beverage. The study used descriptive research design to gather factual information through critical analysis of facts and status of the output of the training programme. Validity and reliability of the instruments were ensured through piloting of the instruments with lecturers and students who were not part of the main study. Quantitative data was analyzed into percentages and frequencies using descriptive statistics with

the help of Statistical Package for Social Sciences (SPSS). The results of the study revealed that poor performance in the Institutes was as a result of lack of equipment at 23%, inadequate practical lessons at 43% and inadequate facilities and resources at 19%. The method of teaching used by 75% of the lecturers was lecture method which was inappropriate for this course. Lack of motivation stated by 73% of the lecturers was also cited as a factor affecting performance. The study recommended that the government and other stake holders should assist the institutions acquire modern training equipment, the institutions should strive to frequently expose their lecturers to in-service training in order to sharpen their teaching skills and that the lecturers should use learner-centred teaching methods to attract full participation of the learner. The study however presented a methodological gap as it utilized descriptive research design while our study will utilize desktop review approach.

Were (2020), conducted a study to investigate the tipping consequence of restaurant food service responsiveness. The study employed a descriptive survey approach within Kisumu County in Kenya, with a focus on classified hotel restaurant (dependent). A simple random sampling methodology was applied in the selection of restaurant clients, with a sample size of 384 respondents. According to the study, tipping was found to have an effect on foodservice responsiveness ($P < 0.05$), and thus a clear indication that foodservice responsiveness is dependent on tipping within classified dependent restaurants in Kisumu County, Kenya.

Muneza (2018), conducted a study that aimed at using visuals derived from local fashion culture in rebranding packages of Kenyan beverages that target the urban youth. A pilot study done to establish the use of cultural visuals on existing packages of Kenyan beverages that target the urban youth showed that out of selected sixteen (16) brands of beverages, only 6.25% had designs with cultural visuals on them. This low rate of return indicated the need of applying cultural visuals in packages of brands of beverages that target the urban youth. The local fashion culture of the urban youth was selected as the type of culture for study. New design compositions were created using visuals derived from the selected fashion culture. In addition, new fonts and methods of using texture in design were developed. The new design compositions, new fonts and texture were applied in new compositions that rebranded packages of beverages targeting the urban youth. It is expected that the rebranded packages will have distinctive features of the local fashion culture that will stand them apart from the competitors in the market. The study however presented a contextual gap as it aimed at using visuals derived from local fashion culture in rebranding packages of Kenyan beverages that target the urban youth while our study aims at examining influence of parent attitude toward consumption of sugary products by their children

Miricho (2020), conducted a study to establish the relationship between tipping and food service reliability in hospitality's restaurant operations in Kenya. Descriptive research survey design was adopted while respondents constituted food service clients and managers, who were selected via simple random sampling as well as purposive sampling respectively, with a sample size of 384 respondents. The study established a statistically significant relationship between the IV tipping

and the DV food service reliability ($P < 0.05$), thus rejected the null hypothesis and concluded that there is a significant relationship between tipping and food service reliability. The study however presented a conceptual gap as it focused on relationship between tipping and food service reliability in hospitality's restaurant operations in Kenya while our study will focus on examining influence of parent attitude toward consumption of sugary products by their children.

METHODOLOGY

The study adopted a desktop literature review method (desk study). This involved an in-depth review of studies related to examining influence of parent attitude toward consumption of sugary products by their children. Three sorting stages were implemented on the subject under study in order to determine the viability of the subject for research. This is the first stage that comprised the initial identification of all articles that were based on examining influence of parent attitude toward consumption of sugary products by their children. The search was done generally by searching the articles in the article title, abstract, keywords. A second search involved fully available publications on the subject on influence of parent attitude toward consumption of sugary products by their children. The third step involved the selection of fully accessible publications. Reduction of the literature to only fully accessible publications yielded specificity and allowed the researcher to focus on the articles that related to influence of parent attitude toward consumption of sugary products by their children which was split into top key words. After an in- depth search into the top key words (examining, influence, parent attitude, toward consumption, sugary, products, children), the researcher arrived at 4 articles that were suitable for analysis. This were findings from:

Amoke (2014), who conducted a study to investigate the factors that affect performance in FBCC. Data was collected using questionnaires and observation schedules. The sample consisted of 25 lecturers and 120 students undertaking Craft Course in Food and Beverage. The study used descriptive research design to gather factual information through critical analysis of facts and status of the out-put of the training programme. Validity and reliability of the instruments were ensured through piloting of the instruments with lecturers and students who were not part of the main study. Quantitative data was analyzed into percentages and frequencies using descriptive statistics with the help of Statistical Package for Social Sciences (SPSS). The results of the study revealed that poor performance in the Institutes was as a result of lack of equipment at 23%, inadequate practical lessons at 43% and inadequate facilities and resources at 19%. The method of teaching used by 75% of the lecturers was lecture method which was inappropriate for this course. Lack of motivation stated by 73% of the lecturers was also cited as a factor affecting performance. The study recommended that the government and other stake holders should assist the institutions acquire modern training equipment, the institutions should strive to frequently expose their lecturers to in-service training in order to sharpen their teaching skills and that the lecturers should use learner-centred teaching methods to attract full participation of the learner. The study however

presented a methodological gap as it utilized descriptive research design while our study will utilize desktop review approach.

Were (2020), who conducted a study to investigate the tipping consequence of restaurant food service responsiveness. The study employed a descriptive survey approach within Kisumu County in Kenya, with a focus on classified hotel restaurant (dependent). A simple random sampling methodology was applied in the selection of restaurant clients, with a sample size of 384 respondents. According to the study, tipping was found to have an effect on foodservice responsiveness ($P < 0.05$), and thus a clear indication that foodservice responsiveness is dependent on tipping within classified dependent restaurants in Kisumu County, Kenya.

Muneza (2018), who conducted a study that aimed at using visuals derived from local fashion culture in rebranding packages of Kenyan beverages that target the urban youth. A pilot study done to establish the use of cultural visuals on existing packages of Kenyan beverages that target the urban youth showed that out of selected sixteen (16) brands of beverages, only 6.25% had designs with cultural visuals on them. This low rate of return indicated the need of applying cultural visuals in packages of brands of beverages that target the urban youth. The local fashion culture of the urban youth was selected as the type of culture for study. New design compositions were created using visuals derived from the selected fashion culture. In addition, new fonts and methods of using texture in design were developed. The new design compositions, new fonts and texture were applied in new compositions that rebranded packages of beverages targeting the urban youth. It is expected that the rebranded packages will have distinctive features of the local fashion culture that will stand them apart from the competitors in the market. The study however presented a contextual gap as it aimed at using visuals derived from local fashion culture in rebranding packages of Kenyan beverages that target the urban youth while our study aims at examining influence of parent attitude toward consumption of sugary products by their children

Miricho (2020), who conducted a study to establish the relationship between tipping and food service reliability in hospitality's restaurant operations in Kenya. Descriptive research survey design was adopted while respondents constituted food service clients and managers, who were selected via simple random sampling as well as purposive sampling respectively, with a sample size of 384 respondents. The study established a statistically significant relationship between the IV tipping and the DV food service reliability ($P < 0.05$), thus rejected the null hypothesis and concluded that there is a significant relationship between tipping and food service reliability. The study however study presented a conceptual gap as it focused on relationship between tipping and food service reliability in hospitality's restaurant operations in Kenya while our study will focus on examining influence of parent attitude toward consumption of sugary products by their children.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Conclusion

This study concluded that frequency of consumption of sugar products varies depending on the type of beverage, and that overall, the more than half of the students' surveyed reported consuming high amounts of sugar-sweetened beverages. Observations from the study showed that energy drinks were the least consumed while sugar-sweetened beverages like tea, coffee and cocoa were the most highly consumed sugary products. By volume, 300ml packing was most preferred by all respondents across all classes of study. Moderate nutritional knowledge on possible effects of sugary products such as weight gain and dental erosion was observed among respondents. There was however, limited knowledge on calorie composition components of sugary products. Further, this study has established that majority of the children expressed a positive attitude towards sugary products consumption.

Recommendations

This study recommended that the ministry of health in conjunction with the ministry of education to incorporate nutritional literacy in the education programs both to the parents and the children to be aware of the demerits of consuming sugary products. This will also contribute to change in attitude and eventually change in behavior.

REFERENCES

- Kinyua L.W., (2013). Association of Nutrition, Knowledge Attitude with dietary practices and nutritional status of female undergraduate students attending university colleges within Nairobi Metropolis. [erespository.uonbi.ac.ke.>handle>kinyua](http://erespository.uonbi.ac.ke/handle/kinyua)
- Mbithe D, Kigaru, Cornelia L, C.W. Macharia, Mutie and Zipporah W (2015). Nutrition Knowledge, Attitude and practices among urban Primary School children in Nairobi City, Kenya. A KAP study. BMC Nutrition, BMC services. <https://doi.org/10.1186/540795-0040-8>
- Mercola (2015). Drinking Sugary drinks increases risks of heart disease. <http://articles.mercola.com/sites/articles/---/2015/--/sugary-drinks-heart-disease-risks>.
- Miller G, Merlo C, Demissie Z; Sliwa S, Park S, (2017). Trends in Beverage Consumption Among High School Students — the United States, 2007–2015. *Weekly* 66(4); 112–116
- Nelia P Steyn & Norman J Tempe (2012). Evidence to support a food-based dietary guideline on Sugar consumption in South Africa. *BMC Public Health*: Vol 12:502 <https://doi.org/10.1186/1471-2458-12-502>
- Pieniak Z, Aertseens J, and Verbeke W, (2010). Subjective knowledge and objective knowledge as determinants of Organic vegetable consumption, Food quality, and preferences, *Nutrition Research online* Volume 11, issue 11, pages 1325- 1332.
- Rampersaud GC, Kim H, Gao Z, House LA (2014). Knowledge, Perception and behaviours of adults concerning non alcoholic beverages suggest some lack of comprehension related to sugars. *Nutr Res.* 2014 Feb;34(2): 134- 42. doi:10.1016/j.nutres.2013.11.004. Epub 2013 Dec 4
- Renata M., Singh, G. Shehab K, Pellin S (2012). Global, Regional, and National consumption of Sugar-sweetened Beverages, Fruit Juices, and Milk, A systematic assessment of beverage intake in 187 countries. <https://now.tufts.edu/news-releases/su...>
- Republic of Kenya (2012a, 5). Kenya Health Policy 2012-2030. Ministry of Medical Services, Ministry of Public Health and Sanitation
- Sartor F, Donaldson, L. Markland DA, Loveday H, Jackson MJ, Hans-Peter Kubis (2011). Soft drinks affect taste. www.bristol.ac.uk/110609-sweet
- Tugendhaft A, Mercy M, Jacob L, Lumbwe C (2015). The potential impact of a 20% tax on sugar-sweetened beverages on obesity in South Africa. *Occ Health Southern Africa*. 2014;20(5):6-8
- Ventura EE, Jaimie ND, and Goran MI (2010). The sugar content of Popular Sweetened Beverages Based on Objective Laboratory Analysis. Focus on Fructose content. *Obesity* doi:10.1038/oby.2010.255.

WHO, (2015). Guidelines: Sugars intake for adults and children. Geneva: World Health Organisation <http://www.who.int/media centre/news/release/2015/ sugarguideline/en/>.

Yang X, Huang C, Tian (2014) Sugar Sweetened Beverage consumption and the risk of Coronary heart diseases. A meta-analysis of prospective students. *Atherosclerosis*. 2014; 234: 11-16. doi:10.1016/j.atherosclerosis.2014.01.037

Zoellner J, Estabrook PA, Davy BM, Chen YC, You W. (2012). Exploring the Theory of Planned Behaviour to explain SSBs consumption. *Journal of Nutrition Education and Behaviour*, Volume 44, issue 2, pages 172-177