

OBESITY PREVENTION AT A SECONDARY SCHOOL

HAPPY VALE SECONDARY SCHOOL - A SUPPORTIVE ENVIRONMENT IN  
PREVENTING AND/OR REDUCING OBESITY?

EDRS6801: Research Project

Submitted in Partial Fulfilment of the Requirements for the Degree of  
Master of Arts (Leadership in Technical and Vocational Education and Training and Workforce  
Development)

of

The University of the West Indies

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2014

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### **Abstract**

This study investigated some factors that prevent students from engaging in obesity prevention/risk reduction practices. An analytical study was held at Happy Vale Secondary school, by collecting qualitative data using semi-structured questions and probes in a focus group discussion with eight (8) volunteers, purposely selected from upper school students. Also field notes with comments were made from non-participant observation of the National Schools Dietary Services Limited school meals for one week. Results identified factors including lack of nutritional knowledge and physical activities, and negative peer attitude. As a home-economics teacher, the researcher recommends a school-based intervention programme.

### **Acknowledgements**

I wish to express my sincerest gratitude to a number of persons who were instrumental in the completion of this research project.

Dr. Bernice Dyer-Regis, my supervisor, who provided continued guidance, constructive criticism and motivational feedback which served as scaffolding for the successful completion of this project.

Mr. Cipriani Davis, my course coordinator, who has always been there for TVET practitioners: thanks for being instrumental in preparing the programme, providing much encouragement and giving invaluable advice throughout the duration of the course.

Stacey O'Neil, Barbara Tudor, Jennifer Taylor-Howard, Diane Flemming, Davoy Orr, Devon Orr, Gregory Wales, and the Martin family who assisted with computer services.

Myrtle Denoon and Evelyn Campbell who provided financial, morale and spiritual support.

Margarita Haynes, Cisly Hercules, Marlene Andrews, Wendell Herbert, Dawn Herbert, Eileen Brisbane, Keisha Walker, Pauline Marshall, Joycelyn Cuthbert, Candace Cuthbert, Fredrica Small, and Dr. Clarena Spencer who gave spiritual support and encouragement.

Gillian Dick, Allison Smith and Lalchan Harripersad, my classmates for morale support  
Edwards, O'Neil and Arthur families who gave expressions of support.

The principal of Happy Vale school, who granted permission to conduct the study.

Finally, I am thankful to Almighty God who guided and strengthened me throughout this journey. With him all things are possible; hence, the successful completion of this study.

### **Dedication**

I would like to dedicate this research project to my loving and compassionate husband, Frank Everton O'Neil. You have always believed in me more than I have believed in myself, and for that I am eternally grateful. Thank you for supporting my academic pursuits and for always encouraging me to achieve my goals.

**List of Abbreviations**

WHO	World Health Organisation
CDC	Centres for Disease Control Prevention
FAO	Food and Agriculture Organisation
CFNI	Caribbean Food and Nutrition Institute
CNCDs	Chronic non communicable disease
RDA	Recommended Dietary Allowance
SEM	Social Ecological Model
SCT	Social Cognitive Theory
GAO	United States Government Accountability Office
IOM	Institute of Medicine
SHPPS	School Health Policies and Programs Study
CCOR	Center for Childhood Obesity Research
TVET	Technical Vocational Education and Training

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## Chapter 1

### 1.0 Background of the Study

International, regional and national trends in childhood obesity are escalating issues of concern; due to children developing obesity related conditions that were previously confined to adults (Carroquino, 2009). Defining the relationship between childhood obesity and physical activity and nutrition will be invaluable to addressing this public health concern. Obesity is defined as an abnormal or excessive fat accumulation that may impair health (World Health Organization, 2014). According to the Centers for Disease Control and Prevention (CDC) the percentage of children aged 6–11 years in the United States who were obese increased from 7% in 1980 to nearly 18% in 2010. Likewise, the percentage of children aged 12–19 years who were obese increased from 5% to 18% over the same period (Centre for Disease Control, 2014). Alarming, this data from three decades therefore revealed that children between the ages of 12 to 19, obesity rates have more than tripled.

In the Caribbean during the decade 2001–2010, the prevalence of overweight in children less than 5 years old rose from 6% to 14%. For boys 11–13 years old, combined overweight and obesity prevalence was 27% while for girls it was 33%. With such high occurrence in youth, it is not surprising that more than 55% of Caribbean women are overweight or obese, almost twice as many as men (Henry, 2011). In a study conducted among school children in Barbados, for example, the dietary intakes, and physical activity were examined with the aim of describing the food and activity preferences and to relate these patterns to the cultural context. One critical observation made in the study was that school-based activity interventions is an important area for preventive intervention research (Gaskin, et al., 2012).

Trinidad and Tobago has emerged as the top Caribbean country whose adult population is obese. According to the report by the United Nations Food and Agriculture Organisation (FAO), our twin island republic (Trinidad and Tobago) is sixth (6<sup>th</sup>) in the obesity rankings among all countries worldwide (United Nations, 2013). In Trinidad and Tobago a study conducted by the Caribbean Food and Nutrition Institute (CFNI) over the period 2009 – 2010 found that 23% of primary school children in Trinidad and Tobago were overweight/obese, 25% of secondary school aged children were overweight or obese (The Directorate of Health Policy, Research and Planning, 2011). Such alarming statistics is cause for concern for our adolescent population due to the impact of obesity on the development of risk factors leading to chronic non communicable diseases (CNCDS) (Ministry of Health, 2014). The escalating trend of childhood obesity is of such dire concern due to the future implications it imposes in terms of the increased risk and early onset for adult associated non communicable diseases. The health effects associated with obesity include, but are not limited to, the following:

- High blood pressure - extra fat tissue in the body needs oxygen and nutrients in order to survive, which requires the blood vessels to circulate more blood to the fat tissue. This increases the workload of the heart since it increases the volume of blood pumped through the arteries thus increasing the pressure on the artery walls (Stanford Children's Health, 2014).
- Heart disease - Atherosclerosis which is hardening of the arteries is often prevalent in obese people compared to those who are not obese. Coronary artery disease is also more common because of fatty deposits build up in arteries that supply the heart (Stanford Children's Health, 2014).

- Diabetes - Obesity can cause resistance to insulin, the hormone that regulates blood sugar (Stanford Children's Health, 2014).
- Cancer - In females, being overweight adds to an increased risk for a variety of cancers including breast, colon, gallbladder, and uterus. Males who are overweight have a higher risk of colon and prostate cancers (Stanford Children's Health, 2014).

Currently in Trinidad and Tobago, Secondary Schools provide an excellent opportunity for preventing and/or reducing obesity. They offer continual regular contact with children during school hours thus providing nutrition education and promotion of physical activity opportunities through the delivery of the formal curriculum in Food and Nutrition, Biology, Integrated Science, Human and Social Biology and Physical Education.; and informally through a supportive environment such as healthy school meals and cafeteria offerings.

The Government of Trinidad and Tobago recognizes that education must involve the total health and well-being of the child. Therefore, deserving students throughout Trinidad and Tobago are provided breakfast and lunch via the School Nutrition Programme. Each school day, over 40,000 breakfasts and almost 100,000 lunches are served to students enrolled in 822 pre-primary, primary, secondary and special schools. Breakfast meals are designed to cater for 1/4 of the Recommended Dietary Allowance (RDA) while lunches are designed to meet 1/3 of the RDA per diem (Ministry of Education, 2014).

School-based health intervention programmes have shown to be effective in the treatment of childhood obesity. School-based prevention programmes can successfully help students to eat better and achieve healthier weights. Moreover, schools are poised to become an integral part of the fight against the obesity epidemic as curricula are more likely to be effective in improving students' health behaviours when they are taught skills needed to make wise food choices and

increase physical activity in order to adopt a healthy lifestyle. A successful school nutrition programme should create links between the food service, curriculum and school policy in favor of healthy lifestyles for the children especially as policy makers work towards reforming school lunch programme.

At Happy Vale Secondary School the nutritional health behaviours are influenced by the academic curriculum in the classroom, the school nutrition environment as well as home and other influences. The availability of food and drink to students is a significant component of the school environment. In Trinidad and Tobago, meals are offered to students via the National School Dietary Services Limited as well as from the school cafeteria and food vendors. In spite of this, there is a paucity of access to a choice of healthy, nutritionally balanced meals. There is no school policy regarding the nutrient content of the meals served and sold on the school compound. With respect to physical activity, it is not mandatory for all students to engage in either physical education classes or participate in a sport. In addition, a disconnect exists between what is taught about human nutrition in the curricula of the Food and Nutrition, Physical Education, Human and Social Biology and Integrated Science subjects and the meals that are available to students and to which they have access.

School plays a critical role in the lifestyle of the children at Happy Vale Secondary School as these students spend at least 6 hours a day and consume at least two meals during school hours. These observations imply that food consumption at school may be a significant factor influencing childhood obesity and suggests that interventions designed to improve the quality of nutrition available in the school system will positively impact the incidence of childhood obesity.

Therefore, the researcher, who is a teacher for ten years, at Happy Vale Secondary school, would like to see a positive school health environment that will foster healthy lifestyle behaviours and at the same time facilitate the mitigation of obesity. Thus, a study of the students' perceptions of food and physical activity will be invaluable in facilitating a positive modification of nutrition choices and physical activity behaviours.

### **1.1 Statement of the Problem**

Although the issue of obesity is directly and indirectly addressed in subject components, such as: Food and Nutrition, Physical Education, Biology, Human and Social Biology and Integrated Science, anecdotal evidence suggests that students are not exhibiting obesity risk-reduction practices.

### **1.2 Purpose of the Study**

The purpose of the study is to determine the students' reasons for not practising obesity risk-reduction behaviour at the school. This will allow the investigator to examine the disconnect between the information provided about healthy diet and exercise practices and the lack of change in dietary choices and physical activity behaviours. In addition, this will add to the general understanding of the factors that are preventing children from engaging in obesity risk-reduction practices in some secondary schools in Trinidad and Tobago.

#### **1.2.1 Research Questions.**

1. What are students' perceptions of obesity?
2. What are students' knowledge about obesity risk factors and consequences?
3. What is students' current knowledge of obesity risk-reduction practices?

4. What are some of the factors that are preventing students from engaging in obesity prevention or risk -reduction practices?

For the purpose of this study the fourth research question is selected for operationalization.

### **1.2.2 Expected Outcome.**

The expected outcome of the study is to use the information gained from the factors that are preventing students from engaging in obesity risk -reduction practices to encourage the school's administration to implement culture-specific policy for improved dietary and physical activity practices geared towards obesity risk-reduction for the students of Happy Vale Secondary School. It is also expected that proposed recommendations coming out of the focus group under the study will be implemented into practice in the Happy Vale Secondary School.

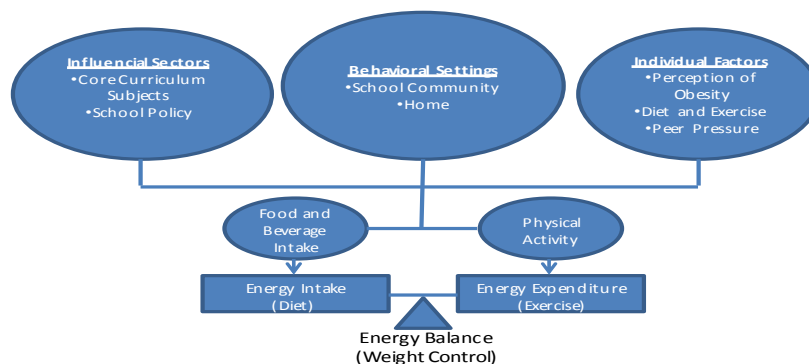
The significance of this study is to contribute to the current body of literature, as not much research has been done to assess how the school as a supportive environment can prevent and/or reduce obesity. Moreover, many studies on obesity evaluate the food choices and exercise habits of individuals, and a lot less on the effectiveness of the secondary school formal curriculum and informally through a supportive environment such as healthy school meals and break-time snacks.

The results of this research can add to the general understanding and create a new body of information in Trinidad and Tobago that can be used by educators, health officials and the general public to better understand some of the reasons for the increased rise in obesity. This research also proposes recommendations coming out of the focus group under the study.

## Chapter 2

### 2.0 Literature Review

In this study, the literature review focuses on the issues arising from the research question: What are some of the factors that are preventing students from engaging in obesity prevention or risk-reduction practices? The Centers for Disease Control (CDC) Overweight and Obesity: Social Ecological Model (The Johns Hopkins Center for a Livable Future, 2007) (was adapted and used to direct the areas of this literature review (Figure 1). This adaptation was necessary to customize the research to the Trinidad context and the restrictions of the Happy Vale Secondary School environment. This change in the model also supports the findings by Albert Bandura (McLeod, 2011) that by employing the Social Ecological Model (SEM) and Social Cognitive Theory (SCT) educators and professionals in other disciplines can be more informed, and increase in understanding of the multi-dimensional health issue.



Adapted from: CDC, (2006) overweight and Obesity: Social Ecological Model

Figure 1. CDC. Overweight and Obesity: Social Ecological Model (2006) (Adapted).

The literature review will report research findings on the four areas of the SEM pertaining to factors that are preventing students from practising obesity prevention/risk-reduction exercises, as well as, recommendations for treating with obesity risk factors. These four areas of the SEM: (1) the Influential Sectors- core curriculum subjects and school policy;



(2) Behavioural Settings- school community, the home; (3) Individual Factors- perception of obesity, and diet and exercise and peer pressure; and (4) Energy Balance- dietary intake and physical exercise.

## **2.1 Influential Sectors**

**2.1.1 Core Curriculum Subject.** National policies on education and health affect the core curriculum. However, some policies have contributed to obesity among adolescents. In the United States of America (USA) the No Child Left Behind Act of 2001 has placed more emphasis on standardized testing and less on physical education (Greco, 2007) thereby, causing the obesity rate to escalate. Further, Schools vary in the amount of physical education time offered to children and adolescents (GAO U.S Government Accountability Office, 2012). Thus obesity can result due to the lack of emphasis teachers are placing on subjects that are not tested; which have a lower priority and are removed from the school's curriculum (Leviton, 2008; Pederson & Fox, 2007). Public policy recommendations in the Caribbean purport a more holistic view that targets the driving forces of obesity in the physical, psychosocial and economic environment (Henry, 2004).

National Educational policies can only be effective when they are materialized in the classroom. According to (Shilts & Townsend, 2012) the classroom can promote healthy eating and physical activity by teachers and nutritionists designing a curriculum instructing children on healthy lifestyles. During classroom time teachers could incorporate physical activity that would help children use more energy. Some school-based interventions that include a dietary and physical component are successful in changing food and physical activity behavior among students (Scott, Marks, & Allegrante, 2013). In 2007 the Caribbean Food and Nutrition Institute launched a school health programme that trained secondary-school teachers to introduce

concepts of healthy diet and physical activity pertaining to non-communicable diseases, to the school curriculum (World Health Organization, 2014).

Some core-curriculum subjects are necessary for a reduction in obesity. (Wechsler, McKenna, Lee, & Dietz, 2004) posit that one of the main ways that schools can positively affect health is via school's mission: educating students in Nutrition and physical activity lessons can be woven into the curriculum in core classroom subjects, physical education, nutrition, health sciences and after-school programmes to teach skills that help students choose and maintain healthy lifestyles. These researches also state that teaching evidence-based nutrition and activity messages, school physical education should focus on getting students engaged in high-quality and frequent activity; whereby the needs of all students will be met as self-management and movement skills will be taught thus making the whole experience an enjoyable one.

**2.1.2 School Policy.** A policy on food availability at the school can be very instrumental in obesity reduction among school children. The school food environment can significantly impact a child's weight condition (Rahaman, Cushing, & Jackson, 2011). The rise in obesity over the past few years has been accompanied by an increase in the number of food options available throughout the school day (Institute of Medicine of the National Academies - IOM, 2007). The national 2006 School Health Policies and Programs Study (SHPPS) conducted by the Centers for Disease Prevention and Control (CDC) revealed that 89 percent of high schools had a vending machine or a school store, canteen, or snack bar where students could purchase food or beverages (Story, Nannery, & Schwartz, 2009). The most common beverages sold were sports drinks, sodas, and fruit drinks, and the most common foods sold were high in fat and salt. It is therefore important to have school policies that would encourage the sale of predominantly healthy foods at the school.

In the United States of America (U.S.A.), attention has been placed on the obesity epidemic where programme developers and policy makers are focusing their attention on the school environment to implement prevention strategies that are geared towards supporting the consumption of daily calories and physical activity among adolescents in a bid to reduce obesity Katz et al. (as cited in Greco, 2007). Recommendation by the 2008 Physical Activity guidelines for American, states that children need at least sixty minutes of aerobic physical activity each day (US Department of Health & Human Services, 2014). Key considerations for strengthening and sustaining physical education policies must involve advocates for improved physical education at every level of the organizational chain of command (US Department of Health and Human Services, 2011).

## **2.2 Behavioural Settings**

**2.2.1 School Community.** In today's society, the school environment is sending students mixed messages between what is taught about 'Healthy' eating in the classroom and what is provided in the school nutrition environment (Story, Nanney, & Schwartz, 2009). The study confirmed that schools' current offerings do not fully support a healthy diet for children and adolescents. Further, Passmore and Harris (as cited in Greco, 2007) recognized that there are certain environmental factors that are contributing to unacceptable nutrition behaviours in schools, including the quality of the meals, the school dining area and the price of the food.

Other research found that schools present an ideal setting to influence student health and behaviour with roughly 95% of U.S. children (5-17 years) enrolled in school and spending over half of their waking hours at school (Koplan, Liverman, & Kraak, 2005) states that schools are ideally positioned to promote healthy lifestyle behaviors among their students by modelling and

reinforcing healthy dietary behaviors and ensure that only nutritious and appealing foods and beverages are provided in all venues accessible to students.

In 2007, the Institute of Medicine revealed a report with recommendations for national standards for competitive foods. It concluded that federally reimbursable school nutrition programmes must be the most important source of nutrition at the school; competitive foods should be limited, they should consist only of fruits, vegetables, whole grains, non-fat milk and other dairy products (Story, Nannery, & Schwartz, 2009). In addition, (Appleton, 2010) recommends that nutrition standards for competitive food venues are needed in schools; this is important in order to promote a school health environment that encourages healthy eating practices that aids in the prevention of childhood obesity.

Ultimately, the Institute of medicine states that adolescents must get more physical exercise at school and strategized that in order for school to achieve greater frequency and intensity of activity they should present attractive alternatives to traditional sports, such as dance; integrate physical activities throughout the school day; and enhance after-school and extracurricular programmes for students (Story, Nannery, & Schwartz, 2009).

**2.2.2 Home Environment.** In today's society many families have failed to be aware of their role in preventing childhood obesity by not instructing their children how to consume healthy foods. In a survey conducted by the American Federation of Teachers in 2005, children were given the choice between menu items high in fat and sugar, and fruits and vegetables, these children chose food stuff high in fat over 50 percent of the time (Story, Nannery, & Schwartz, 2009). (Further studies reveal that parents need to get involved in their children's nutritional habits at once because later can be disastrous).

In addition, a study conducted by the Center for Childhood Obesity Research (CCOR) at Pennsylvania State University in Philadelphia, show that the children who were fed vegetables during their adolescent years are more likely to sustain these habits and eat vegetables in their teenage years.

## **2.3 Individual Factors**

**2.3.1 Perception of Obesity.** Many factors have been attributed to cause obesity in adolescents. Perceptions of the causes of obesity in adolescents from a middle-income setting vary according to socioeconomic position, and nutritional status. Some individuals blame genetics as being responsible for obesity development, others attribute it to unhealthy diets and lifestyles, while others believe the roles of early life experiences and family customs play a part in the process of obesity development (Gonçalves, et al., 2012).

According to the (American Heart Association, 2012), eight percent (8%) of obese individuals misperceived their body size, believing they did not have to lose weight or that they can afford to gain weight. While, those who misperceived their need for weight loss thought they were healthier than others their age, there were others who misperceived their body size and were less likely to exercise and see a physician than their counterparts who correctly perceived their body size. Further, some obese individuals misperceive that their body size is normal and they do not need to lose weight.

Optimistically, many efforts have attempted to address the environmental and structural contributors to obesity via policies that are geared at improving the school food environment, enacting menu labeling legislation, taxing sodas, and improving the accessibility of healthy foods. However, it was discovered that larger-scale efforts would be needed; to address obesity appropriate to its impact, a coordinated well-funded response is critical (Puhl & Heuer, 2010).

Adler and Stewart (as cited in Puhl & Heuer, 2010) proposed a “behavioral justice” approach to address obesity, which highlights the need to provide sufficient resources in the environment that enable individuals to engage in health-promoting behaviors. Further, adolescents should only be held responsible for engaging in healthy behaviors if they have full access to conditions that enable those behaviors.

**2.3.2 Diet and Exercise.** A holistic approach to addressing obesity should not be limited to food but include a physical exercise perspective. Indiscriminate eating habits, in particular excessive calorie intake, and the eating of foods which are high in fats, oils and sugar and low levels of physical activity are considered to be the main causes of obesity Benjamin et al. (as cited in Story, Nanney, & Schwartz, 2009). Healthy eating and physical activity controls body weight through a balance of energy expenditure and caloric consumption. Weight gain occurs when persons expend less energy through physical activity than they consume through their diet. The dietary imbalance continues over a period of time, and the risk for overweight and obesity increases (Centre for Disease Control and Prevention, 2011).

Although researchers believe that obesity is the result of either excessive food consumption or insufficient physical activity. They debate greatly on which contributes the most. In conclusion, it is believed that obesity is best viewed in terms of energy balance (Hill, Wyatt, & Peters, 2012).

Moreover, schools play a particularly critical role by establishing a safe and supportive environment with policies and practices that support healthy behaviors. Schools also provide opportunities for students to learn about and practice healthy eating and physical activity behaviors (Centre for Disease Control and Prevention, 2011).

In addressing indiscriminate eating habits, Lee (as cited in Centre for Disease Control and Prevention, 2011) states that schools can promote the acquisition of lifelong healthy eating and physical activity behaviors through strategies that provide opportunities to practice and reinforce these behaviors. School efforts to promote healthy eating and physical activity should be part of a coordinated school health framework, which provides an integrated set of planned, sequential, and school-affiliated strategies, activities, and services designed to promote the optimal physical, emotional, social, and educational development of students.

**2.3.3 Peer Pressure.** Shaya, Flores, Gbarayor and Wang (2008) state that food habits among young people are generally influenced by their peers, the so-called "peer pressure". Obese adolescents are often stigmatised in Western societies and are usually the victims of negative stereotyping, discrimination, teasing and bullying (Jones, et al., 2013) . Further, appearance-related social pressure plays a vital role in the development of a negative body image and self-esteem, as well as severe mental disorders during adolescence such as eating disorders and depression Helfert and Warschburger (as cited in Merikangas, He, Burstein, Swanson, & Avenevoli, 2010).

In support of the observation by Helfert and Warschburger a study of privately insured adolescents by Marder and Chang (as cited in Greco, 2007) revealed that 9.9% of obese adolescents have depression compared to 1.4% for non-obese adolescents. In addition, 10.7% of obese adolescents have other diagnosed mental disorders that cause anxiety, obsessive thoughts and compulsive acts compared to 2.0% for non-obese adolescents.

Our society also contributes to the negative perceptions of obesity because many individuals fail to consider or accept obesity as a disease. Lack of acceptance of obesity as a non-

communicable disease by many, limits the success of some approaches to prevent and decrease overweight and obesity (US Department of Health and Human Services, 2011).

## **2.4 Energy Balance**

**2.4.1 Food and Beverage Intake.** Competitive foods are widely available in schools, especially secondary schools. Studies have related the availability of snacks and drinks sold in schools to students' high intake of total calories, soft drinks, total fat and saturated fat, and lower intake of fruits and vegetables (Story, Nanne, & Schwartz, 2009). In many countries the prevalence of obesity is attributed to the consumption of sugars. Sugar is eaten in combination with other energy-producing nutrients, fat and carbohydrates with decline in physical activity (Henry et. al., 2006).

Poor diet and physical inactivity are risk factors for numerous conditions that affect overall health and quality of life; while Healthy eating and physical activity control body weight through a balance of energy expenditure and caloric consumption (Centre for Disease Control and Prevention, 2011).

Therefore, (Story, Nanne, & Schwartz, 2009) recommend the need for stronger policies to provide healthier meals to students at schools; limit their access to low-nutrient, energy-dense foods during the school day; and increase the frequency, intensity, and duration of physical activity at school.

**2.4.2 Physical Activity.** According to (Henry, 2004), school policies have allowed for the drastic reduction of physical education, and our transportation policies have favoured the use of personal automobiles which does not encourage physical activity. (The Johns Hopkins Center for a Livable Future, 2007) opines that observers of the school environment have noted that adolescents move very little during the school day and the reasons are many.



Budgetary restrictions have discouraged investments in the curricula, staff and equipment that are necessary for high-quality physical activity programming (The Johns Hopkins Center for a Livable Future, 2007). In addition, opportunities for physical activities that do exist often place emphasis on traditional, competitive games which do not result in sustained cardiovascular activity or which may not stimulate the interest of students who are less athletically inclined (Rees et al., 2006). According to the (US Department of Health and Human Services, 2011), it is vitally important to encourage adolescents to participate in physical activities that are suitable for their age, that are enjoyable, and that offer variety. However, despite financial and other barriers faced by school communities, there are recommended strategies for achieving greater frequency and intensity of activity.

The strategies range from the offering of attractive alternatives to traditional sports, such as dance which will help to engage older students especially girls who are least likely to be active; incorporating of physical activities throughout the school day; and the enhancing of after-school and extracurricular programmes for students as well as activity -related classes for families and staff (Institute of Medicine of the National Academies - IOM, 2007).

## **2.5 Summary**

The purpose of the literature review was to acquire an understanding of the literature that is specific to factors that are preventing students from engaging in obesity prevention or risk-reduction practices? There were topics of interest specific to the research question that was specifically studied throughout the literature review. Therefore the intention of the literature review was also to garner an understanding of what other researchers have found to be the most pertinent challenges, concerns and understanding of the multi-dimensional health issue of obesity.

## **Chapter 3**

### **3.0 Methodology**

This chapter outlines the methods used to conduct the study with eight students, as the researcher attempts to investigate the factors that are preventing students from engaging in obesity prevention/risk reduction practices. It includes a description of the type of study, the study design method, and the rationale for using this method. It then describes the sampling procedure, profiles of the participants with relevant justifications, instrumentation and methods of data collection, time frame with changes made along the way, ethical considerations, limitations and delimitations. This chapter ends with a description of the data analysis.

#### **3.1 Type of Study**

This study uses the qualitative methodology to investigate some of the factors that are preventing students from engaging in obesity prevention/risk reduction practices. The research was an analytical study held at the Happy Vale Secondary school, situated at Ridge View Drive, in the Caroni educational district in April 2014. A Focus Group of eight (8) adolescents from upper school participated in the study.

Qualitative data was collected from the focus group by asking semi-structured questions pertaining to dietary habits and physical activities derived with the structure in mind (social ecological model). A qualitative approach was chosen as it helps the researcher to explore and understand a central phenomenon (Creswell, 1998). According to Creswell, a qualitative study is “an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting (Creswell, 1994, pp. 1-2)”. This study of things in their natural setting, according

to Denzin and Lincoln (as cited in Merriam, 2009, p 13) is an attempt “to make sense of, or interpret, phenomenon in terms of the meanings people bring to them”.

Qualitative research is therefore exploratory, and is used when the researcher does not know what to expect to define a problem or develop an approach to the problem. It is also used to delve deeper into concerns of interest and explore nuances related to the current problem faced (Mora, 2010). The aim of this study therefore seeks to get a deeper understanding of, and to make meaning of these students’ perceptions of some the factors that are preventing students from engaging in obesity prevention /risk reduction practices. The findings of this study can be used to encourage the school’s administration to implement culture-specific policy for improved dietary and physical activity practices geared towards obesity prevention/ risk-reduction for the students of Happy Vale Secondary School.

### **3.1.2 Study Design**

A case study design was used. This design was chosen because the research focused on one training institution which will include people in real situations at Happy Vale Secondary (Cohen, Manion, & Morrison, 2000). According to (Rees, 1996), Qualitative research involves broadly stated questions about human experiences and realities studied through sustained contact with people in their natural environments, generating rich, descriptive data that help the researcher to understand their experiences and attitudes. He further asserts that Qualitative research aims to find out people’s feelings and experiences from their own view point rather than that of the researcher. (Creswell, 1998) purports that some of the characteristics shared by most qualitative studies include the following: a) natural setting; b) researcher playing a key role in data collection; c) data collected in words or pictures; d) research outcome seen as a process rather than a product; e) inductive analysis of data; f) focus on individual participant’s

perspective and g) multiple sources of data. The comments made above about qualitative research justify its selection and use in this study. Stake (1995) cited in (Creswell, 2009) defined case studies as a strategy of inquiry in which the researcher explores in depth; a programme, event, activity or process of one or more individuals. This case study is bounded by time and activity, and the researcher collects detailed information via focus group discussion using semi-structured questions and field notes, along with 'School Meals Observations'. The case study approach allowed the researcher to identify and explore possible patterns or themes common to the study. It helped the researcher to improve the generalizability of the research.

This case study is particularistic, descriptive and heuristic (Merriam, 1998 p. 29). It is particularistic in the sense that it focuses on one particular phenomenon: students lack of engagement in obesity prevention/risk reduction practices. It is descriptive because it seeks to provide a rich, thick description of the students' experiences with and feelings about the school food environment and physical activity practices; it is heuristic because the researcher will be gathering information that will extend her understanding of some of the factors that are preventing students from engaging in obesity prevention/risk reduction practices.

### **3.2 Sampling Procedure**

Given that the researcher's purpose was to investigate what are some of the factors that are preventing students from engaging in obesity prevention/ risk reduction practices from the perspective students, it was necessary to select adolescents attending the Happy Vale Secondary School between the ages of 14 and 18 years old, who were enrolled on the class register. The adolescents selected for the sample were in forms 4, 5 and lower 6 and represented the senior population who the researcher felt would yield rich data on this phenomenon in a focus group. To this end, the study was conducted using purposive sampling. Kerlinger (1986) explained

purposive sampling as another type of non-probability sampling, which is characterized by the use of judgment and a deliberate effort to obtain representative samples by including typical areas or groups in the sample. He further explained that the power of purposive sampling lies in selecting informative rich cases, for in-depth analysis related to the central issues being studied.

Creswell (2003) also commented that the idea behind qualitative research is to purposefully select participants that will best help the researcher understand the problem and the research question. Therefore, from a student population of one thousand and five (1,005) students, eight (8) students between the ages of 14 to 18 were selected. The students were selected on the basis of studying a subject related to nutrition or science, or are involved in a sporting activity at Happy Vale Secondary School. Students from the Food and Nutrition, Food Preparation, Biology or Integrated Science classes or sporting activities such as dragon boat, netball and cricket teams, were approached and invited to participate in the study. Of those who volunteered, eight (8) were selected to secure a balanced group comprising of gender, science, nutrition, and athletics. Purposeful sampling approach was used because it is a qualitative sampling process in which the researcher selects participants in the school setting to learn and understand the fundamental phenomenon (Creswell, 2008).

**3.2.1 Profiles of Participants.** To obtain the information to compile the profiles of the eight (8) students, some questions were asked at the beginning of the focus group discussion before delving into the specific questions of actual dietary and physical activity practices among adolescents. In so doing, pseudonyms (chosen by each student) were assigned to each student to maintain the ethical requirement of anonymity.

Adrian is a male form 5 student who is seventeen years old and lives in a rural area in Santa Cruz. He is of mixed origin and from a single parent home. Presently, this participant is

pursuing studies in: English- Language, Mathematics, Social Studies, Principles of Business, Principles of Accounts and Spanish. This student is a cricketer and captains Happy Vale Secondary School cricket team.

Bob is a male form 5 student who is sixteen years old and lives in a suburban area in Maracas, St. Joseph. He is of mixed origin and lives with his nuclear family. This participant is pursuing studies: in English -Language, Mathematics, Social Studies, Principles of Business, Spanish and Food Preparation.

Carl is a male form 5 student who is fifteen years old and lives in a suburban area in San Juan. He is of Chinese descent and lives with his nuclear family. At present, this participant is studying: English -Language, Mathematics, Social Studies, Principles of Business, Spanish and Food and Nutrition.

Danny is a male form 4 student who is fifteen years old and lives in a rural area in Santa Cruz. He is of African descent and lives with his extended family. This participant is pursuing studies in: English -Language, Mathematics, Social Studies, Principles of Business, Spanish and Chemistry.

Erica is a female form 5 student who is fifteen years old and lives in a rural area in Laventille. She is of African descent, and from a single parent home. At present, this participant is pursuing studies in: English -Language, Mathematics, Social Studies, Principles of Business, Principles of Accounts and Integrated Science.

Fraven is a female form 5 student who is fifteen years old and lives in a suburban area in Chaguanas. She is of East Indian descent, and lives with his nuclear family. At present, this participant is studying: English -Language, Mathematics, Social Studies, Principles of Business,

Spanish and Food Preparation. This student is a member of the 'Dragon Boat' team at Happy Vale Secondary School.

Glenda is a female form 6 student who is 17 years old and lives in a suburban area in Curepe. She is of mixed origin, and lives with her nuclear family. At present, this participant is an 'A' Level student pursuing a course of studies in Communication studies, Management of Business, and Economics. This student is a netballer and functions as a 'Wing Defence'.

Helen is a female form 6 student who is 18 years old and lives in a rural area in Santa Cruz. She is of African descent, and is from a single parent home. At present, this participant is an 'A' Level student pursuing a course of studies in Communication studies, Management of Business, and Accounts. This student is an active member on the 'Dragon Boat' team.

The age group of the students was seen as ideal because they were nearing the end of their high school career and would therefore be able to give valuable insight from their early years in form 1, to the present. It was also hoped that their age and level of maturity would have enabled them to give fairly articulate accounts of the food environment and physical activity programmes at Happy Vale Secondary School.

All of the participants were frank, even outspoken, and shared a good rapport, so the researcher was confident that they would not be reticent during the interview.

### **3.3. Instrumentation**

The study attempted to explore some of the factors that are preventing students from engaging in obesity risk-reduction practices through collecting data from a focus group discussion using semi-structured questions with probes and observations (body language) where necessary, as well as field notes with comments for non-participant observation of the National

Schools Dietary Services Limited school meals (breakfast and lunch) for one week in April, 2014.

**3.3.1 Data Collection.** In qualitative studies the researcher performs in the capacity of principal research instrument. (Patton, 1990) advocate that the researcher's role will be to collect data in an attempt to gain insight into the case under study and to interpret the data collected. For the purpose of this study, qualitative data were collected from a focus group discussion (Appendix A), as well as field notes with comments for non-participant observation of the National Schools Dietary Services Limited school meals (breakfast and lunch) for one week in April, 2014 (Appendix B).

The eight focus group participants were wittingly selected from those who met all two qualifying characteristics:

1. Be between the ages of 14 and 18 years old.
2. Studying a 'Nutritional' or 'Science' subject or is involved in 'Athletics'.

All participants were recruited and the focus group discussion took place in the air-conditioned Audio Visual room, where chairs were placed in a circle in the middle of the room. A microphone was placed on a small table in the middle of the circle to ensure optimal recording of the focus group discussion. It was explained that the group was offered privacy and was located in the participant's school for their comfort. Setting has been said to be important for conducting an effective focus group session (Michael, Frankland, Thomas, & Robson, 2001); therefore, a familiar setting such as this one helped participants feel comfortable and encouraged conversation.

The focus group discussion began with informal introductory comments (Appendix A), brief instructions for the focus group proceedings and an invitation for all participants to partake



freely of the light refreshments provided by the researcher. Introductory comments were developed according to suggestions by Lindolf and Taylor (2002) who advised setting a conversational tone is important in order to make participants more comfortable to share their thoughts. The set of semi-structured questions and probes were then used to initiate discussion.

A semi-structured guide of questions and probes were followed throughout the focus group discussion (Appendix A). The semi-structured guide allowed participants to elaborate on questions when needed (Berg, 2004). Items on the semi-structured guide were constructed in order to achieve the proposed research purpose. Questions 1-2 did not correspond with the proposed research question, but functioned as ice-breaker questions to get participants thinking about nutrition. Questions 3-8 were directly linked to dietary and exercise practices in the school setting, whereby the researcher will be able to obtain data on some of the factors that are preventing students from engaging in obesity prevention/risk reduction practices.

To conclude the focus group session, a question was posed to get the overall thoughts of the students on the availability of healthy food choices and physical activity at Happy Vale Secondary. This was done in order to allow participants to add any comments to the focus group discussion that may not have fit within the semi-structured schedule guide.

Closing comments thanking the adolescents for participating ended the focus group discussion (Appendix A). The focus group session lasted roughly 45 minutes. Previous research has suggested that 45 minutes is the maximum time limit for an effective focus group session, especially for younger participants; long focus group sessions can cause fatigue (Wimmer & Dominick, 2006). The moderator/researcher after the proceedings, downloaded the information unto her personal computer and transcribed verbatim for analysis as recommended (Lindolf & Taylor, 2002). This document was used to analyze the data for categories and emerging themes.

Moreover, Goetz and Le Compte (1984) identified the focus group interview as being most helpful to qualitative research methodology. Therefore the focus group session make available insights and perceptions that might not be otherwise available to the researcher. The researcher employed an interview protocol consisting of eight (8) questions which was used to generate discussion in order to obtain data (Appendix A). Questions were based on the research question which was reflective of the derived structure in mind, the Social Ecological Model Framework.

**3.3.2 Ethical Considerations.** In an effort to ensure that this research was conducted in an effective manner, the researcher made every effort to ensure that ethical issues were adhered to by looking at the ethical issues involved in the research process. “Research does involve collecting data from people, about people”, Punch, 2005 (as cited in Creswell, 2009, p. 87), whereas Lichtman emphasizes that “much of qualitative research involves interaction with individuals”, (Lichtman, 2009, p. 52). Therefore, “researchers need to protect their research participants; develop trust with them; promote the integrity of research [and] guard against misconduct and impropriety...” Israel and Hay, (as cited in Creswell, 2009, p. 87).

The aforesaid ethical issues were considered in the conduct of this study. Firstly, permission was sought from the Happy Vale Secondary School Principal via a letter, (Appendix C) to conduct the study with students and thus gain the agreement of individuals in authority to provide access to participants of the research (Creswell, 2009, p. 91). Furthermore, letters were sent home to parents seeking permission to conduct an audio taped focus group session with their children before commencing same. Assurances were given to parents and students of the privacy, anonymity and confidentiality of any information provided (Appendix D).

As previously stated, the students were assured that their names would not be used throughout the study but pseudonyms will be used instead. These assurances were to ensure that students participating in the study, had according to Lichtman, “a reasonable expectation that privacy will be guaranteed ..., [their identities] will not be revealed [and] “that information provided to the researcher will be treated in a confidential manner” (Lichtman, 2009, pp. 54-55) The students were also informed that they had the right to withdraw at any time from the study. A private area, the Audio Visual room, was identified and scheduled to conduct the focus group session.

### **3.4 Time Frame**

Conceptualization of this research study started on the 13th November, 2013. The researcher started with the topic: "The Role of the Food and Nutrition Programme in a Secondary School in Reducing Obesity in Trinidad and Tobago." Then, the **Statement of the Problem** was: "In spite of being students of Food and Nutrition and being exposed to knowledge; what are some of the risk factors for obesity that will put them at risk."

#### **Research questions were:**

1. The knowledge acquired in the Food and Nutrition Programme, is it applied in the students food choices and exercise habits?
2. What are some of the factors that are preventing Food and Nutrition students from applying the knowledge they have gained when making food and exercise choices.

The **significance of the study** was to find out if students in the Food and Nutrition Programme are transferring information acquired into practice, if not what are the factors that are preventing them from doing so. After one month into the study, the research topic was under

review and the following changes were made to the problem statement and a research question was added.

The **Problem Statement** read as follows: In spite of the heightened awareness of Food and Nutrition students in schools, Trinidad still faces obesity amongst its adolescents. Research Question: Does the Food and Nutrition Programme adequately capture the risk factors associated to obesity? Moreover, at the beginning of January 2014, the research topic was under scrutiny again by my supervisor and me, the researcher. Finally, we came to a decision whereby the topic of the research, statement of the problem, and research questions will be changed.

Changes made: **Research Topic:** Happy Vale Secondary School- As a Supportive Environment in Preventing/ Reducing Obesity Risk Reduction Practices.

**Statement of the Problem:** Although the issue of obesity is directly and indirectly addressed in subject components, such as: Food and Nutrition, Physical Education, Biology, Human and Social Biology and Integrated Science, anecdotal evidence suggests that students are not exhibiting obesity risk-reduction practices.

**Purpose of the Study:** The purpose of the study is to determine the students' reasons for not practising obesity risk –reduction behaviour at the school. This will allow the investigator to examine the disconnect between the information provided about healthy diet and exercise practices and the lack of change in dietary choices and physical activity behaviours. In addition, this will add to the general understanding of the factors that are preventing children from engaging in obesity risk-reduction practices in some secondary schools in Trinidad and Tobago.

**Research Questions:**

1. What are students' perceptions of obesity?
2. What are students' knowledge about obesity risk factors and consequences?

3. What is students' current knowledge of obesity risk-reduction practices?
4. What are some of the factors that are preventing students from engaging in obesity prevention or risk-reduction practices?

The fourth question will be operationalized.

On December 14th, 2013 the researcher was ill and this resulted in corrective surgery. ; The unfortunate circumstance impeded my progress and on several occasions the researcher experienced many challenges while sitting for 3 hours nightly. Many difficulties such as fatigue, swollen and painful feet were encountered by the researcher, while working indefatigably on the research project.

The Data collection process was originally scheduled to be conducted in March 2014. Hence due to the surgery, the researcher was away from work (school), and was at home on convalescent leave. This unfortunate situation resulted in the focus group discussion being conducted on my return to work at Happy Vale Secondary School in April 2014.

### **3.5. Field Notes**

During the process of conducting the focus group discussion, the researcher involved herself in the process of note taking to make sure she captured the spoken words and the body language displayed by each participant. The notes made were deliberately detailed to ensure much of what was discussed was written. The field notes made contributed significantly to the data collection process of the research study.

### **3.6. Recording and Organizing the Data**

The processes varied for the recording and organizing of the data from the three sources focus group discussion, observation of free school meals being offered by the Ministry of

Education, and the scrutiny of documents in the literature review that is consistent with the structure of the Social Ecological Model Framework, in preparation for analysis.

**3.6.1. Focus Group.** Before conducting the focus group discussion, I met with the eight participants and brief them on the process we were about to embark on. Participants were made to feel comfortable in a relaxed atmosphere as they familiarize themselves with the written focus group protocol. At the start of the session the discussion was taped using a digital recorder and a microphone for voice amplification.

During the session students were seen hesitant at times to share their views and the researcher kept reassuring participants that their views and opinions were strictly confidential, and information volunteered would be kept strictly confidential. Participants were then given the assurance that the information would be used in a study that the researcher was engaged in at the University of the West Indies. Further, they were reminded that their names would not be included in the study so as to allay all doubts, misconceptions or fear they might have in answering the questions openly. The participants were however asked to provide a pseudo name for ease in conducting the data analysis. In addition, the participants were also informed that their answers would be compiled in order to have their responses documented to complete the study.

The researcher then manually transcribed the recordings verbatim making sure to capture instances when the vernacular was spoken. Then, the researcher transferred the written text to a Microsoft Document which created ease in identifying themes and excerpts throughout the document. The use of an inductive approach was employed in order to facilitate the coding of data and the categorization of themes that emerged. The researcher casually identified codes during the focus group session.

After the data were transcribed, codes were identified cautiously through careful re-reading of the data and field notes from the focus group discussion placing words or expressions that emerged, and seemed to be similar, into the same grouping. The data collected were organized to support plausible factors for obesity prevention/risk reduction practices. In reviewing the Microsoft Document, the researcher noted important issues that were worthy of highlighting. Moreover, the codes were then structured into categories from which themes were realized to reveal the meaning of the data contained in the social context.

**3.6.2. Limitation.** This study was limited to the Happy Vale Secondary School. It was restricted to: forms 4, 5, and 6 (upper school), and students who were pursuing studies in nutrition, science or were involved in a sporting activity.

**3.6.3 Delimitation.** Findings will be specific and may not be pertinent to all secondary schools in Trinidad and Tobago nor to all students at Happy Vale Secondary School. The sample was a small one and the research data was not collected via questionnaires which would have provided for a more extensive study.

## Chapter 4

### 4.0 Data Analysis and Presentation of Findings

Herein lies, the most important chapter of the research study whereby the researcher critically examines the points at which some of the key variables overlap, converge, diverge or traverse parallel paths, harmonizing or challenging one another (Dyer-Regis, 1999) while keeping obesity prevention/risk reduction practices as the pivot. The interpretations that the researcher presents embrace no claim to comprehensiveness and are the end result of mixing, matching and combining of the data, then sorting and extracting meaning.

The chapter offers a description of the phenomenon of obesity prevention /risk reduction practices, which depicts what the participants experienced with the phenomenon in the structural setting (Creswell, 1998). The description answered the study's research question which focuses on students reasons for not engaging in obesity prevention/risk reduction practices?

In responding to the research question, the views of the eight (8) students and the researcher who represented Happy Vale Secondary School are presented under the following pseudonyms: researcher-Vera

Males	Females
Adrian	Erica
Bob	Fraven
Carl	Glenda
Danny	Helen

Core themes have been identified under which the elicited information has been analyzed.



#### 4.1. Reflexivity

Reflexivity is admittance that research is not a value neutral action. Greenbank (as cited in Dyer Regis, 2010) in his discussion on the role of values in education inferred that ‘individuals have a value system consisting of a small cluster of morals, competence, personal and social values that influence a person’s attitude and behaviour’. These values influence the researcher’s ontological and epistemological position, eventually determining the research topic chosen, methods applied and conclusions reached.

Carr (as cited in Dyer-Regis, 1999) maintained that position in his statement that just by virtue of engaging in their work, educational researchers are dedicated to values. The researcher is therefore reminded by him that she has a responsibility to critically examine and justify the influence of values on the research undertaken, for as he opined: Values are an important ingredient in educational research that their removal is impracticable save by eliminating the research enterprise itself (Carr 1995, p. 88).

This influence of the researcher on the research, led Walford (as cited in Dyer-Regis, 1999) to make the philosophical statement that all research is researching yourself. It is therefore evident that the researcher's values would have been brought to bear on this research study, for as she engaged respondents in focus group discussions, she realized that she was able to identify some of what was emerging. Being an educator at Happy Vale Secondary for over ten (10) years, the researcher would have been exposed to some of what the subjects of this study related, and therefore the researcher made no effort to hide her positioning.

In small developing countries like Trinidad and Tobago, the social identity and the values of the researched and the researcher have effects on the data gathered and the social world produced Bernard (as cited in Dyer-Regis, 1999). This is supported by Bourdieu in his statement

which also makes clear the researcher's position in the research: Indeed the social world is an object of knowledge for persons who belong to it and who, comprehended within it, comprehend it and produce it, but from the standpoint that they dwell within it Bourdieu (as cited in Dyer-Regis, 1999).

In this study, the challenge therefore is to maintain an objective view of the respondents' world, while the researcher being cognizant of her subjective position, so as not to contaminate the research by her values, which are referred to by Carr (1995) as 'value-infiltration'. Impartiality, in general dialogue, can be considered to be merely considering things the way they are Eisner (as cited in Dyer-Regis, 1999). As an educator at Happy Vale Secondary for over ten (10) years, the researcher stands on a similar platform sharing similar experiences. As the respondents see things the way they are, the researcher also see what they are seeing. The researcher's position, which is located within the research, can then be considered to be that of an 'insider'. Thus the insights and views that the researcher combines in the analysis can add worth and be a constructive attribute of the study. It is amazing how one definition of qualitative research describes it as a situated activity in which the observer is situated within the world (Denzin & Lincoln, 2005).

Indicative of Rampersad (as cited in Dyer-Regis 1999) the researcher acknowledges that her interpretations are filtered through additional lenses such as, her language which determines the meanings that she attaches and how she creates social reality. The researcher is cognizant of the phenomenological nature of this study. Phenomenology has been described as a philosophy without assumptions in which all opinions about what is real are pending until they are established on a more certain basis (Creswell, 1998) which substantiates my objective position.

The section that follows answers the research question while outlining the themes that emerged? In doing so, the contributions of respondents who participated in the focus group discussion along with information unearthed from the non-participant observation of the ‘free school meals’ were all be integrated to add meaning to the research study.

#### **4.2. Students’ reasons for not engaging in obesity prevention practices**

The views of focus group respondents were sought in providing answers to this research question and would be represented in this section. The responses of the participants indicate that there are some factors that are preventing students from practicing obesity prevention/risk reduction practices (Appendix E). The responses are organized according to the themes that emerged (Table E1): perception of a balanced diet; peer pressure; influential food factors; cafeteria offerings; free school meals; curriculum; school health guidelines and opportunities for physical activity. Also, the researcher will integrate the ‘free school meals’ observations under the theme free school meals.

**4.2.1. Misconception of a Balanced Diet.** From the data collected most respondents tend to categorise foods into good or bad, and this is indeed a barrier to healthy eating; moreover this prevents a correct understanding of dietary balance (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007).

Vera: When the respondents were asked what their idea is of a balanced diet is many explained:

Adrian: “eating foods in small portions three times a day”

Bob: “eating only three meals a day”

Carl: “eating foods from the food groups”

Danny: “eating three meals a day and no snacking between meals”

Danny: “eating three meals a day and no snacking between meals”

Erica: “eating good foods that are healthy like plenty fruits and vegetables”

Fraven: “eating foods from the six food groups in the correct proportion”

Glenda: “eating plenty fruits and vegetables that are good and very little of the bad stuff like starchy food”

Helen: “eating more of the good foodstuff and little of the foods that are bad”

The views expressed by some respondents suggest that they view a balanced diet as partaking of particular foods rather than eating foods from the six food groups in the correct proportion according to the individual needs (Tull, 2009). The negative mind-set of unhealthy food as not being good is in relation to a negative self-image in a few adolescents and a lack of confidence in oneself to adopt healthy eating habits (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007).

According to (Carels, Konrad, & Harper, 2007) adolescents are inclined to categorizing foods into ‘healthy’ and ‘unhealthy’ due to the fact that healthy foods allow one to maintain an ideal body weight while unhealthy foods aid in weight gain. Moreover, adolescents fail to comprehend that ‘bad’ foods can be included in a balanced diet which may contribute to the belief that following a healthy diet is impossible or more troublesome than it is worth (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007).

**4.2.2. Peer’s Attitude to Body Image.** Participants’ responses to whether or not obese students are less likely to participate in physical activity than their healthy weight; peers were unanimous.

All participants replied saying “Yes”. When probed to give reasons, the respondents said:

Adrian: “students may stare at them as they may look funny in their gears”.

Bob: “students may laugh at them as they may be awkward- looking in playing sports”

Carl: “students may stare at them as they may look funny in their gears”.

Danny said: “students don’t want to mix with them because of their body size”.

Erica: students may laugh at them as they may be awkward- looking in playing sports”.

Fraven: “Students laugh at them in their sports clothes and this may discourage them”

Glenda: “students may stare at them as they may look funny in their gears”.

Helen: “Students may not want to play with them because of their weight and the way they look”.

It is evident from the responses that peers’ negative perception and awareness of obese individual’s body size in relation to physical appearance was experienced as a barrier to physical activity at school. What emerged as salient was the perception of not looking as good as others, during physical education classes. Such perceptions related to the respondents’ views of how obese adolescents looked in clothing worn during exercise. One study reported that these perceptions at school led to feelings of embarrassment in girls, particularly whilst in front of boys (Wills, Blackette-Milburn, Gregory & Lawton, 2006).

Here we see a direct report of the social pressure towards thinness as well as the generalized negative attitude towards obesity (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007). Therefore, peer pressure may lead to the avoidance of many physical activities as obese adolescents are often afraid to have their bodies on display in unavoidable situations at the

school's gymnasium. At times obese students look embarrassed and fearful as they are being bullied [harassed, teased] (Wills, Blackette-Milburn, Gregory & Lawton, 2006).

**4.2.3. Lack of opportunities for Physical Activity.** During the focus group discussion participants were asked to reflect on whether they felt there were opportunities to be physically active at Happy Vale Secondary School. The participants directly addressed the topic and arrived at different conclusions.

Adrian argued there were not opportunities to be active during school however, there are several after school activities available.

Bob stated that unless you take Physical Education as a subject there were minimal opportunities.

Carl was a bit boisterous and indicated that there were no opportunities during school time for non-physical education students.

Danny was very calm and quietly mentioned that there is indeed a lack of opportunities.

Erica stated sometimes when there is a competition like netball or cricket game, students are given permission to practice break time and lunchtime.

Fraven quickly mentioned: "yes".

Glenda stated: "sometimes".

Helen blurted out emphatically: "yes".

The participants had an extensive discussion and reached the consensus that "Yes" there were opportunities to be physically active. Most participants tended to put emphasis on the after-school activities such as cricket, football, basketball, netball, and dragon boat. However, in order to participate in these referenced activities, students are required to contribute financially to their

sporting activity of choice. It is logical to suggest that these additional costs to participate in the sporting activities might be a deterrent for several students.

According to (Rees et al., 2006) opportunities for physical activities that do exist often place emphasis on traditional, competitive games which do not result in sustained cardiovascular activity or which may not stimulate the interest of students who are less athletically inclined (Rees et al., 2006). Further, it is estimated that the average child between the ages 2 to 19 is not exercising enough to maintain a healthy lifestyle (GetKidsInAction, 2014).

In addition, it is very unfortunate that students are failing to participate in a sporting activity due to lack of financial aid. Barroso et al. (2005) opined that budgetary restrictions have discouraged investments in the curricula, staff and equipment that are necessary for high-quality physical activity programming. Therefore, it is practical to suggest that the reason for students monetary input to support their chosen sporting activity is due to lack or delay of funding from government.

**4.2.4. Absence of Policies and guidelines.** Expanding from the conversation about physical education, students were asked what schools can do inside the classroom to promote a healthy lifestyle.

Responses:

Adrian: “let teachers teach the importance of nutrition and exercise in subject areas such as science, physical education and food and nutrition classes”.

Bob: “display charts in every class room showing the importance of a healthy lifestyle”.

Carl: “ask teachers to integrate nutrition topics that promote healthy eating into their specific subject area”.

Danny “inter-class competition whereby students display posters in their form rooms on the benefits of a healthy lifestyle”.

Erica: “provide teachers with basic training in nutrition so that they can promote healthy food choices”.

Fraven: “give students projects to come up with dishes that have been altered and are low in fat, salt and sugar and place these dishes on display when there are ‘Open Day’ for parents”.

Glenda: “teach Food and Nutrition students to prepare nutritious meals and share recipes with fellow students”.

Helen: “allow teachers in science, physical education and food and nutrition to teach the importance of a healthy lifestyle”.

**Participants were further asked what schools can do to promote healthy lifestyle outside the classroom.**

Adrian: “encourage students to walk to school instead of taking a taxi from the croisee”.

Bob: “have walkathon on special occasions e.g. school anniversary and display slogans depicting a healthy lifestyle”.

Carl: “encourage students to walk to school”.

Danny: “let teachers display healthy eating and physical activity behaviours on the school’s compound”.

Erica: “encourage students to walk to school”.

Fraven: “encourage students to take part in cricket, football, netball, or dragon boat”.



Glenda: “have teachers and ancillary staff display a healthy lifestyle to us students by not buying fatty foods like pizza and drinking soft drinks, and by playing outdoor games lunchtime and after school”.

Helen: “encourage students to walk to school and get involved in activities such as dragon boat, netball, basketball, football or cricket”.

From the participants responses it is evident that there is a need for Happy Vale Secondary School to have a greater impact in the fight against obesity among its student population. In the United States of America, in the fight against obesity, focus was placed on environmental factors such as regulation of marketing that promotes low nutrient density food consumption and inhibits physical activity.

The National Conference of State Legislatures (2006) has reported that legislators are currently considering a variety of policy approaches to facilitate opportunities for a healthier diet and more exercise during childhood. Moreover, research has shown that well-designed, well-implemented school programmes can successfully promote healthy eating and increased physical activity (CDC, 2014).

Hence, in a bid to addressing health issues across the curriculum, a School-based research is recommended. Lytle et al. (as cited in The Johns Hopkins Center for a Livable Future, 2007) opine that a School-based research is prominent in childhood obesity prevention efforts in part because schools offer access to children in an educational setting that, at least in theory, can be modified more easily than home and community environments.

In addition, school-based interventions are usually implemented to help students make healthier choices by providing them with health information while at the same time improving the environment in which their choices are made Lytle et al. (as cited in The Johns Hopkins

Center for a Livable Future, 2007). Further, Hoelscher et al., 2004 state that in order to provide health education in an ongoing fashion, teachers often notes the need to tie health information to existing curricula, and math and science classes which have proven to be a particularly good fit in this regard.

Therefore, in the fight against obesity teachers need to act as role models for healthy lifestyle. Weschsler, Mckenna, Lee, and Dietz stated schools need to implement a comprehensive health promotion programme for members of staff. The researchers are claiming that the staff health promotion programmes are a sound strategy for boosting staff morale, attendance, and overall performance. Staff can also make important contributions to students' health by allowing staff to acquire the skills and motivation they need to become capable role models for good health.

**4.2.5. Influential Food Factors: Taste and Cost.** Another theme was discussed and participants' responded to what factors influence their food choices:

Adrian: "cost and taste"

Bob: "cost and the food is satisfying"

Carl said: "do not buy food at school, the food is not nutritious"

Danny: "smell, appearance and taste"

Erica: "taste, appearance and cost"

Fraven: "do not buy food at school; the food is not healthy for the body"

Glenda: "cost and taste"

Helen: "cost and the food is filling"

Stevenson, Doherty, Barnett, Muldoon, and Trew (2007) opined that food aesthetics, in terms of flavor, eye appeal and aroma, was often reported as one of the major physical highlights

when selecting food. Contemporary Western society has supported an obesogenic way of life of eating amongst adolescents. Many factors may influence an adolescent's vulnerability to this eating culture, and thus act as a barrier to healthy eating. Given the growing rate of obesity amongst adolescents, the need to decrease these barriers has become a necessity.

Drewnowski and Specter (2004) posited that the prevalence of obesity in low income populations can be attributed to the inverse relationship between energy density and the cost of food. Those who have less money have smaller budgets to spend on food. Hence, those living with low socioeconomic factors consume lower quantities of fruits and vegetables. Therefore there is need for a paradigm shift.

(Centre for Disease Control, 2014) stated that schools can promote the acquisition of lifelong healthy eating ... behaviors through strategies that provide opportunities to practice and reinforce these behaviors. School efforts to promote healthy eating ... should be part of a coordinated school health framework, which provides an integrated set of planned, sequential, and school-affiliated strategies, activities, and services designed to promote the optimal physical, emotional, social, and educational development of students.

**4.2.6. School as a Non-Supportive Dietary Environment.** The participants were asked about their favourite food bought from the cafeteria.

Adrian: "fries with ketchup or pizza"

Bob: "pizza and soft drink"

Carl: "do not buy food from the cafeteria"

Danny: "fries with ketchup and soft drink"

Erica: "pizza and soft drink"

Fraven: "do not buy food from the cafeteria"

Glenda:” pizza and fruit juice”

Helen: “fries and pizza fruit juice”.

The discussion continued and the participants seemed to share similar views about the quality and variety of food served in the cafeteria. Among the eight participants a reoccurring criticism by the students was that the pizza and fries served are very greasy, soggy looking and unappetizing. One student described the fries to the Vera (facilitator) by saying: “...well when you bite it, it is like only grease in your mouth. The pizza, it’s like they put the cheese and then they put like grease, then they put like dough on it and then they put like more grease. There is hardly any sweet pepper or pineapple on it.

While these comments were made by two students, the majority appeared to agree with this complaint. An interesting finding is that while students were quick to criticize the nutritional value of items served, many of the participants purchased and consumed these items on a regular basis. Glenda shared that her lunch usually consisted of three pieces of pizza with fries every day, however she still questioned why the cafeteria sold these items knowing that they were unhealthy. Continuing, she argued that the school should stop the sale of those fattening foods.

This point introduces another controversial question concerning the quality of the school meals supplied by the National Schools Dietary Services Limited. Responses:

Adrian: “lack colour and flavour”

Bob: “tasteless, and sometimes the channa is not well cooked”

Carl: “unappealing”

Danny: “tasteless”

Erica: “sometimes the food is not sufficient to satisfy students, especially sandwiches for lunch”

Fraven: “very little vegetables are served”

Glenda: “the meal is often times not satisfying, and they can add a fruit for dessert when they offer sandwich for lunch”

Helen: “the meals are not well balanced, very little vegetables”

When probed about the suitability of the meals for obese students, all participants replied in the negative saying the food is not suitable. Participants were then asked for suggestions for improving the meals.

Responses:

Adrian: “give plenty vegetables and less rice, and do not serve roti and pizza”

Bob: “serve more vegetables and less rice or noodles”

Carl: “do not serve fried fish and bread, roti and pizza”

Danny: “serve more fruits and vegetables”

Erica: “do not serve pizza and roti”

Fraven: “serve plenty vegetables and less rice or noodles”

Glenda: “do not serve pizza, roti and fried fish”

Helen: “serve plenty fruits and vegetables”

A significant issue in relation to school lunches is their lack of attractiveness to students. Researchers have found that students’ views of school lunches are mixed. “While some report that there are a variety of choices available, others feel that the food is of poor quality, does not taste good, and is not fresh. They also reported portions of vegetables are too small. According to (Tull, 2009) vegetables are of great importance in the diet of man. They contain dietary fibre, valuable minerals and vitamins that are necessary for growth and good health thus preventing constipation.

Dietary fibre which is found in the indigestible part of food such as the cell walls of the vegetables is not a nutrient but is beneficial in the diet as it holds a lot of water and fat, and binds other foodstuff residues to itself, thus ensuring that the feces are soft and bulky and pass easily out of the body in minimum time. This helps in obesity risk reduction practices as fat is trapped in the fibre and eliminated as waste (Tull, 2009). Therefore, vegetables should be eaten in large quantities as they can help in the fight of obesity prevention.

The words of an old adage “the proof of the pudding is in the eating of the pie” inspired the researcher to further investigate the students’ claims of this phenomenon. At Happy Vale Secondary observations of the Breakfast and Lunch Menus were observed for one week beginning on April 28<sup>th</sup> 2014 to May 02<sup>nd</sup> 2014.

The non – participant observation revealed (Appendix F):

Comments:

Day 1- Breakfast

The breakfast consisted of a muffin and 400 millilitres bottle water which was the only choice available to underprivileged students (Table F1). It is common knowledge that breakfast is the first meal of the day and it provides 1/3 of the daily nutrients needed to keep the body well-nourished until lunchtime. Adolescent boys daily requirements are 2800 kilo calories (kcal); likewise girls’ 2300 kcal (Tull, 2009). The caloric content of the muffin was 320 kcal. Therefore, this breakfast did not provide the necessary calories to sustain an adolescent for the morning period.

Day 1- Lunch

The lunch menu consisted of four mixes according to the multi mix principle of meal planning (Tull, 2009). There was the protein dish, staple or starchy dish, legumes and the

vegetables (Table F2). The combination was a very good one. Also visible were some food aesthetics such as: appropriate colour, smell and texture. The only shortcoming was the vegetables were in limited supply.

#### Day 2- Breakfast

The menu consisted of water and two hops bread filled with cheese paste (Table F1). The bread lacked dietary fibre, and the cheese paste has a high fat content. The absence of fibre to aid in digestion and absorption of the high fat content in the cheese, and getting rid of same via excretion was appalling. According to (CDC, 2012) diets high in saturated fat have been linked to chronic disease, specifically, coronary heart disease. The Dietary Guidelines for Americans 2010 recommended the consumption of less than 10% of daily calories as saturated fat.

#### Day- 2 Lunch

The food served was extremely unappetizing. The food aesthetics were totally out of order; the fish (Table F2) looked oily, lacked that characteristic golden colour, and the pleasant well-seasoned fried fish aroma. Students were seen discarding the food in the dustbin and drinking the beverage. It is disheartening to see such a waste of tax payers' dollars going down the drain.

#### Day -3 Breakfast

The Sada Bake with Curried Bodi and Water (Table F1) was well received by the students. However many were disappointed. The sada bake was under cooked, looked white in colour and students after one or two bites dumped the meal in the bin. The characteristic colour and texture, that is, the aesthetics of the sada bake was lacking.

### Day- 3 Lunch

The Corn soup was lacking in colour, and vegetables (Table F2) had a very thick consistency. The meal was not well received, what was evident was students' making a detour when they discovered what was available for lunch. Many students were seen begging friends for a dollar to make up money to purchase something for lunch. Therefore, there is reason to suggest that students find an alternative when the school meals provided are not up to acceptable standards.

### Day- 4 Breakfast

The menu was orange fruit drink and Bhaji Pie (Table F1). The breakfast was well received by many students but what were obvious were students lurking around with the hope of getting another serving, some even pulled pranks on their colleagues to get their pie. From scrutinising the pie it was that the portion size was inadequate to satisfy the students.

### Day 4 Lunch

The menu was Curried Bodi, Pumpkin and Amchar Mango with Roti (Table F2). This was well received by the students. However, the high fat content is cause for concern. After many students ate what was obvious was the channa remained in the boxes. It was assumed that the channa was under-cooked. My suspicion was right and I was privileged to hear two students criticizing the coarseness of the channa.

### Day -5 Breakfast

The breakfast consisting of Buljol with Roast Bake and water (Table F1) vanished in a jiffy. Students were seen eating enthusiastically with a cheerful disposition. Late comers were visibly disappointed and had to resort to the cafeteria or remain hungry.



### Day -5 Lunch

The menu for the day was Baked Chicken in Barbeque Sauce, Saffron Rice and Stewed Pink Beans (Table F2). Students were seen with their heads bent over their boxes. Many looked as if they were guarding their lunch. One student was heard saying this taste like ‘Sunday lunch’.

According to the Parliament of The Republic of Trinidad and Tobago Fourth Report of the Joint Select Committee on Ministries, Statutory Authorities and State Enterprises (2012) on Meal Acceptance; stated that one of the major challenges experienced is the change in the nation’s eating habits which impacts negatively on the service mainly in schools where the administration of meal service is uninterested or negligible. Fast food type menus seem to be the most enjoyed and better consumed by students while traditional meals and vegetarian menus with the exception of soup and roti received mixed acceptance by students.

Moreover, to increase the consumption of fruits and vegetables continues to be an uphill struggle. Consequently, consideration is being given to investigate the benefits and costs of having staff in schools to supervise the service wherever necessary and strategies to include improving meal presentation and disguising vegetables in the meals served by including it with the staple dishes (<http://www.ttparliament.org>).

### **4.3. Summary**

The data obtained from the focus group discussion and the non- participant observation at Happy Vale Secondary revealed the following.

First, it was discovered that students needed to be well informed in the area of nutrition so that they can make wise and healthy food choices.

Secondly, peers negative attitude about body image creates resentment in the minds of obese students, and this is often a barrier that discourages them from participating in physical activities.

Thirdly, there is a lack of opportunities for physical activities during class time at Happy Vale Secondary. Students are clamouring for Physical Education to be made available to all students. At present, students who would like to take part in after school sporting activities may not be able to participate due to the financial cost attached in many instances.

Fourthly, there is an absence of school policies at Happy Vale Secondary in the area Health and Wellness. At present there are no guidelines for students to adhere to.

Fifthly, the main influential factors that motivate students to purchase food are cost, taste, attractiveness of food, and the satiety value. Therefore the nutritive value was never taken into account. The determining factor for student choices were attributed to the adoption of an affluent lifestyle adopted from contemporary western society.

Lastly, the meals supplied by the National Schools Dietary Services Limited do not adequately cater to the needs of all students. Nutritional content, taste and appearance need to be urgently addressed.

## Chapter 5

### Discussion and Recommendations

#### 5.1. Discussion

The purpose of this chapter is to reprise the findings and discuss each in the light of the literature; and make recommendations that are linked to each finding in relation to the research question which focuses on students' reasons for not engaging in obesity prevention/risk reduction practices.

Today a significant number of children are facing obesity and issues relating to being overweight. The predicament associated with these issues is surfacing in the school setting, in the classroom, and the 'school food environment'. A lack of nutritional knowledge has attributed to this mayhem. For example, the data revealed there was a **misconception of the term 'balanced diet'** whereby many respondents were totally incorrect; their main idea of a balanced diet was to categorise food into healthy or unhealthy and fail to comprehend that 'bad' foods can be included in a balanced diet which may contribute to the belief that following a healthy diet is impossible or more troublesome than it is worth (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007).

The results of the study also revealed that **negative peer attitude** is a social problem plaguing many obese adolescents at the school that is the subject of investigation. The many advertisements and movies shown on television depict slim individuals in the advertisements or soap operas. Here we see a direct report of the social pressure towards thinness as well as the generalized negative attitude towards obesity (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007). Therefore, peer pressure in many instances do lead to the avoidance of many physical

activities as obese adolescents are often ostracised and are afraid to have their bodies on display in unavoidable situations.

**Many opportunities for Physical Activity** do not exist at Happy Vale Secondary School. Students who did not select physical education in their career choice package are unable to be physically involved during the scheduled class time. However, students are free to choose a sporting activity of their choice (dragon boat, netball, football, cricket and basketball) to be involved in after school, they have that prerogative. Many students will argue it is easier said than done because in order to participate in these referenced activities, students are required to contribute financially towards buying gears and equipment. According to have discouraged investments in the curricula, staff and equipment that are deemed necessary for high-quality physical activity programming. Therefore, it is practical to suggest that the reason for students monetary input to support their chosen sporting activity is due to lack or delay of funding from government.

The **Absence of Policies and guidelines** at Happy Vale Secondary is indeed a step in the wrong direction. Students quest for school policies and guidelines is an ‘under statement’. In the fight against obesity focus must be placed on environmental factors such as regulation of marketing that promotes low nutrient density food consumption and inhibits physical activity among adolescents. In the USA, The National Conference of State Legislatures (2006) has reported that legislators are currently considering a variety of policy approaches to facilitate opportunities for a healthier diet and more exercise during childhood. In Trinidad and Tobago there is therefore the need for the development and implementation of a variety of policy approaches to facilitate opportunities for a healthier diet and more physical exercise during childhood.

### **Influential Food Factors: Taste and Cost**

Taste and cost emerged as influential factors in students of Happy Vale choice of food. Due to our newly acquired affluent lifestyle in Trinidad and Tobago, food aesthetics, in terms of flavor, eye appeal and aroma, has often motivated the way we purchase food (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007). The 'Contemporary Western' society custom we have adopted has supported an obesogenic way of eating amongst our adolescents. Owing to this fact, many factors may influence an adolescent's vulnerability to this eating culture, and this acts as a barrier to healthy eating (Stevenson, Doherty, Barnett, Muldoon, & Trew, 2007). Given the growing rate of obesity amongst adolescents, there is therefore the need for government and by extension school administrators (along with the help of teachers) to decrease these barriers which have become a necessity.

### **School as a Non-Supportive Dietary Environment**

The study sample identified the school environment as being non-supportive of healthy eating practices. Adolescents who are overweight or obese are more susceptible to non-communicable diseases such as diabetes, hypertension, cancer and osteoarthritis. Many experience more difficulties with social adjustment, and increased risk for emotional problems than their healthier weight peers.

Therefore, school administration should approach obesity and overweight issues with sensitivity, and should not be afraid to openly discuss the topic with their adolescents. Obese adolescents may be looking for school personnel who can understand their situation, provide supportive intervention programmes, and help them in maintaining a healthy weight via proper diet and regular exercise.

Indeed individuals learn from the things they suffer. The many challenges help to build character in one's life, thus enabling victims of circumstances to be role models and advocates for the fight against obesity.

(Pyle et al, 2006) opine that adolescents report that they are looking for school staff to help them maintain healthy body image in a supportive school environment. Further, the adolescents add that it is helpful to have the support of an adult who has gone through similar weight struggles (Pyle et al, 2006) . Indeed individuals learn from the things they suffer. The many challenges help to build character in one's life, thus enabling victims of circumstances to be role models and advocates for the fight against obesity.

## **5.2. Introduction**

This section presents a few recommendations in order to address some of the concerns which emerged from the investigation with eight focus group participants on the research question: what are some of the factors that are preventing students from engaging in obesity prevention/risk reduction practices.

### **Recommendations**

- There is therefore the need for a “behavioural justice” approach to address obesity, which highlights the need to provide sufficient resources in the environment that will enable individuals to engage in health-promoting behaviours.
- Establish school environments that support healthy eating and physical activity. by implementing policies and practices that support healthy eating and regular physical activity and by providing opportunities for students to learn about and practice these behaviors.

- Make available to students health, mental health, and social services that will support healthy eating, physical activity, and related chronic disease prevention.
- Develop, implement, and evaluate school-based healthy eating and physical activity policies and practices for students.
- Develop health educational programmes that provide students with the facts, attitudes, skills, and expertise needed for healthy eating and physical activity.
- Provide a quality school feeding programme and make sure that students have only appealing, healthy food and beverage choices offered outside of the school meal programme.

### **5.3 Conclusion**

In summary, obesity in adolescents is an escalating problem. There is therefore the need for steps to be taken to address this blazing issue because today's children will probably live shorter, less healthy lives than their parents and grandparents. It is therefore unfeasible to identify a single cause or solution to the obesity pandemic. Moreover, children spend many hours at school, and the curriculum and the school nutrition environment provide ample opportunities for steps to be made in this direction. Regrettably, schools are sending mixed messages to adolescents between what is being delivered via the curriculum about healthy eating in the classroom, and what is being provided in the 'school food environment'.

At Happy Vale school environment, competitive foods high in fat, sugar and sodium are sold in the school cafeteria to students. It is therefore imperative that nutrition standards for competitive foods sold in schools be implemented to promote a healthy school environment, thus encouraging healthy eating practices. Further, schools can create and uphold healthy school

environments by helping to alleviate food perceptions about food determined by prior knowledge, which influence food choices and eating patterns.

Therefore, adolescents perceive taste, satiety value and cost as important factors when choosing food. Adolescents seem to recognize the benefits of 'eating healthy'; however they still have difficulties making the 'healthy choice due to the many challenges highlighted in the study. At Happy Vale Secondary School it is envisaged that the school nutrition environment can promote healthy behaviours in order to motivate adolescents to make healthy dietary and exercise choices.

The combined efforts of the school nutrition environment, the Food and Nutrition Department, the Science Department and the Physical Education Department can collaborate to influence student dietary and exercise habits. Ultimately, these factors impact weight status and over a period of the time the health of students. Additional research on obesity reduction practices is needed, so that steps for successful interventions can be developed and executed to improve adolescents' health and overcome obesity at Happy Vale Secondary School.



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**Appendix A**  
**Focus Group Discussion**

**Interview Protocol**

**WELCOME**

Thanks for agreeing to be part of the focus group. We appreciate your willingness to participate.

**INTRODUCTIONS**

Moderator; assistant moderator

**PURPOSE OF FOCUS GROUP**

The reason we are having this focus group is to find out\_\_\_\_\_.

We need your input and want you to share your honest and open thoughts with us.

**GROUND RULES**

**1. WE WANT YOU TO DO THE TALKING.**

We would like everyone to participate.

I may call on you if I haven't heard from you in a while.

**2. THERE ARE NO RIGHT OR WRONG ANSWERS**

Every person's experiences and opinions are important.

Speak up whether you agree or disagree.

We want to hear a wide range of opinions.

3. WHAT IS SAID IN THIS ROOM STAYS HERE

We want folks to feel comfortable sharing when sensitive issues come up.

4. WE WILL BE TAPE RECORDING THE GROUP

We want to capture everything you have to say.

We don't identify anyone by name in our report. You will remain anonymous

Researcher

Hi, my name is Vencelia Edwards-O'Neil, I am currently pursuing a Masters Degree at the University of the West Indies, St. Augustine Campus, and wanted to talk with you today about how adolescents make healthy choices in secondary school. It is nice to meet you again and thank you for volunteering to do this study.

I am going to ask you to respond to some questions about nutrition. Our conversation will be audio taped. Is this okay with you?

Participants - [Answer]

Researcher

Thank you. There are some snacks and drinks on the table that you can have. Please take whatever you want and however much you want.

When I start to ask you questions, please respond as honestly as you can. Remember that as we talk there are no right or wrong answers, so just think carefully about your own personal opinions when you answer.

All of the answers you give me will be anonymous and it is okay to say your name during the interview because your name will later be replaced by a code - name. If you get confused at any time during our conversation, it is okay to stop and ask me questions too. Do you have any questions now, before we begin?

### ***Ice-breaker Questions***

Q1. Do you ever think about what you eat and drink?

Probe 1a: Why/why not

Q2. What does “nutrition” means to you?

Probe 2a: Is it important to you?

### ***Interview Schedule***

Healthy Eating

Q3. What does being healthy mean to you?

Probe 3a: Where did you learn about how to eat healthy?

Probe 3b: What is your idea of a balanced diet?

Probe 3c: If you bring lunch to school, what do you usually bring?

School Cafeteria

Q4. What is your favourite food bought from the cafeteria/school vendor?

Probe 4a: When purchasing food at school, what factors influence your food choices?

Probe 4b: Are you satisfied with the food offerings at the cafeteria/vendor? (If no)

Probe 4c: What can schools do to improve healthier food offerings in the cafeteria?

#### School Feeding Meals

Q5. What do you think about the 'school feeding' meals served daily?

Probe 5a: Do you think the meals served are suitable for obese students?

Probe 5b: If no, give suggestions for improving the meals?

#### Physical Activity

Q6. At Happy Vale Secondary, are you able to be physically active?

Probe 6a: When- (During school time or after school)?

Probe 6b: Do you think obese students may be less likely to participate in physical activity than their healthy weight peers? (Give reasons for your answer)

Probe 6c: What do you think schools could do to make it easier for obese students to get more physical activity while at school?

#### School Environment

Q7. When do you and your friends get around to talking about food or nutrition while you are at school? (class time, recess/lunch)

Probe 7a: Do you believe there is a need to have a designated area for students to go and eat their lunch?

Probe 7c: What benefits can be derived from having a lunch room for eating lunch?

Q8. What can schools do inside the classroom to promote a healthy lifestyle?

Probe 8a: what can schools do to promote health outside the classroom?

Conclusion

What are your overall thoughts about the availability of healthy food choices and physical activity at Happy Vale Secondary?

- Can you give suggestions for:
  - (i) improving healthy eating
  - (ii) increasing physical activity

### *Closing Comments*

Researcher

Thank you for talking with me. What we have talked about in this focus group will help in determining, how Happy Vale Secondary School can be a supportive environment in reducing obesity. Your participation has been very important.

Thank you and have a great day.

**Appendix B**

**Field Notes**

<b>Descriptive Notes</b>	<b>Reflective Notes</b>
<p>Balanced diet looked at as being healthy or unhealthy</p>	<p>Some respondents suggest that they view a balanced diet as partaking of particular foods rather than eating foods from the six food groups in the correct proportion according to the individual needs</p>
<ul style="list-style-type: none"> <li>• Adrian argued a lot saying no opportunities to be active during school however, there are several after school activities available..</li> <li>• Carl was a bit boisterous and indicated that there were no opportunities during school time for non-physical education students.</li> <li>• Danny was very calm and quietly mentioned that there is indeed a lack of opportunities..”.</li> <li>• Helen blurted out emphatically: “yes”.</li> </ul>	<p>Most participants tended to put emphasis on the after-school activities such as cricket, football, basketball, netball and dragon boat</p> <p>It is logical to suggest that these additional costs to participate in the sporting activities might be a deterrent for several students.</p>
<p>The participants had an extensive discussion and reached the consensus that “Yes” there were opportunities to be physically active. However, in order to participate in these referenced activities, students are required to contribute financially to their sporting activity of choice</p>	
<p>Reoccurring criticism by the students was that the pizza and fries served are very greasy, soggy looking and unappetizing</p>	<p>The majority appeared to agree with this complaint</p>

## **Appendix C**

### **Letter to Principal**

The Principal,  
Happy Vale Secondary,  
Ridge View Drive,  
Barataria,  
25<sup>th</sup> April, 2014.

Dear Madam,

Request for permission to conduct focus group session with eight students

I, Vencelia Edwards-O'Neil, Technical Vocational Teacher II, hereby request your permission to conduct a focus group session eight students from forms IV, V and VI in order to assist me in my study, as part of my Research Project for the completion of my Masters in TVET Leadership and Management Degree. The name of my study is: "What are some of the factors that are preventing students from engaging in obesity prevention /risk reduction practices"?

The purpose of the study is to determine the students' reasons for not practising obesity risk –reduction behaviour at the school. This will allow the investigator to examine the disconnect between the information provided about healthy diet and exercise practices and the lack of change in dietary choices and physical activity behaviours. In addition, this will add to the general understanding of the factors that are preventing children from engaging in obesity risk-reduction practices in some secondary schools in Trinidad and Tobago.



It is my hope that the results of this study can add to the general understanding and create a new body of information in Trinidad and Tobago that can be used by educators, health officials and the general public to better understand some of the reasons for the increased rise in obesity.

This research also proposes recommendations coming out of the focus group under the study

- Consent letters would be obtained from parents prior to the conduct of the focus group discussion on May 2<sup>nd</sup> 2014 with the students.
- No interview would be conducted with the students during class time.
- All information obtained from the students will be used for the purpose of the research study only.
- The names of the students will not be used in any part of the study or the Final Report
- The participation of the students is entirely voluntary and so they are free to withdraw from the study at any time.

I now wish to take this opportunity to thank you in advance for granting me permission to conduct this study with the students of your school.

Yours sincerely,

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Vencelia Edwards-O'Neil

cc. Vice Principal

## **Appendix D**

### **Letter to Parents**

Happy Vale Secondary,  
Ridge View Drive,  
Barataria,

25<sup>th</sup> April, 2014.

Dear Parent/ Guardian,

I, Mrs. Edwards-O'Neil Technical Vocational, Teacher II, at the above named school is currently pursuing a Masters Degree in Technical Vocational Education and Training, (TVET) Leadership and Management at the University of the West Indies. As part of this programme, I am doing a Research Study entitled: Why are students not engaging in obesity prevention/risk reduction practices?

To do this study, I have to conduct a focus group discussion with some students of forms 4,5 and 6 in order to obtain their views about why students are not engaging in obesity prevention risk reduction practices. The purpose of the study is to determine students' reasons for not practising obesity risk –reduction behaviour at the school. This will allow the investigator to examine the disconnect between the information provided about healthy diet and exercise practices and the lack of change in dietary choices and physical activity behaviours.

It is my hope that the results of this study can add to the general understanding and create a new body of information in Trinidad and Tobago that can be used by educators, health officials

and the general public to better understand some of the reasons for the increased rise in obesity. This research also proposes recommendations coming out of the focus group discussion under the study.

To this end, your son/daughter/ward \_\_\_\_\_ has been selected as one of the students to be participating in the focus group discussion for this Research Study. The interview is expected to last approximately 45 minutes and will be conducted during the luncheon interval.

I give you the assurance that:

- No focus group discussion would be conducted with your child/ward during class time.
- All information obtained from your child/ward will be used for the purpose of the research study only
- The name of your child/ward will not be used in any part of the study or the Final Report
- The participation of your child/ward is entirely voluntary and so he/she is free to withdraw from the study at any time.

I now wish to take this opportunity to thank you in advance for your permission to conduct this study with your child/ward.

Yours sincerely,

\_\_\_\_\_

Mrs. Edwards-O'Neil

Technical Vocational Teacher II

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I \_\_\_\_\_ do / do not give permission for my  
son/daughter/ward \_\_\_\_\_ to participate in interviews for  
the Research Study identified above.

Signature: \_\_\_\_\_

## Appendix E

### Factors of Prevention

Table E1

Codes and Themes

CODES	EXCERPTS	CATEGORIES	THEMES
Diet	<p>"Eating foods from the six food groups to suit the individual needs"</p> <p>"Eating foods that are healthy like plenty fruits and vegetables".</p> <p>"Eating foods from the six food groups in the correct proportion".</p>	Dietary misconception	Misconception of a balanced diet
Social Pressure towards obese adolescents	<p>"Students laugh at fat students when deh playing P.E. cause deh too slow and sluggish".</p> <p>"Students stare at these big fat children as they look funny in their games clothes".</p> <p>"Students doh like to play with dem obese children because of their big size and awkwardness."</p>	Individual Factor	Peer Pressure
Influences on adolescent eating behaviour	<p>"Cost and taste".</p> <p>" The food is cheap, tasty and filling".</p>	Food Aesthetics	Influential Food Factors: taste and cost
School as a Supportive Dietary Environment for Obesity Prevention	<p>"Lack of colour and flavour".</p> <p>"Tasteless and sometimes when deh serve roti, the channa is not well cooked".</p> <p>"The meal is often times not satisfying, and a fruit can be offered with sandwiches for lunch".</p>	School Food Environment	School as a non-supportive Dietary Environment

Physical Education Programme within school

"Expose students to extra-curricular activities such as dancing and fitness programmes".

"Have a supervised gym area where obese students can feel free to go and exercise when a subject teacher is absent, and also during lunchtime or after school".

"Provide all students with stretch exercises before classes begin, and encourage students to play game-like activities when they are teaching".

Physical and activity and health of adolescents

Lack of Opportunities for Physical Activity

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## Appendix F

### Non-participant Observations

Table F1

#### Breakfast Menu

Items and Comments	Monday Breakfast	Tuesday Breakfast	Wednesday Breakfast	Thursday Breakfast	Friday Breakfast
Breakfast Menu	Muffin and water	Cheese Sandwich and water	Sada Bake with Curried Bodi and Water	Bhaji Pie and water	Saltfish Buljol with Roast Bake and water
Menu Comments	Comments Too much sugar, not suitable for breakfast	Comments Cheese sandwich was well received but not the water	Comments Well received and enjoyed but they did not appreciate the water	Comments Portion is too small and not filling, students usually look for seconds	Comments Appetizing and well received but students will prefer juice

Table F2

## Lunch Menu

Items and Comments	Monday Lunch	Tuesday Lunch	Wednesday Lunch	Thursday Lunch	Friday Lunch
Lunch Menus	Chicken and Pigeon Peas Pelau Hot slaw	Fried Fish Fillet/Bread with sautéed Vegetables and Orange Drink	Corn and vegetable soup	Curried channa with potato, Pumpkin and bodi, Amchar Mango and Paratha Roti	Baked Chicken in Barbeque Sauce, Saffron Rice and Stewed Pink Beans
Menu Comments	Comments Well received by the students. Looks very attractive and served with a little sautéed vegetables.	Comments Not well received by the students. The drink was consumed and many dumped the fish Sandwich.	Comments Not well received by the students and very little vegetables served.	Comments Well received and enjoyed by students	Comments Appetizing and well received