



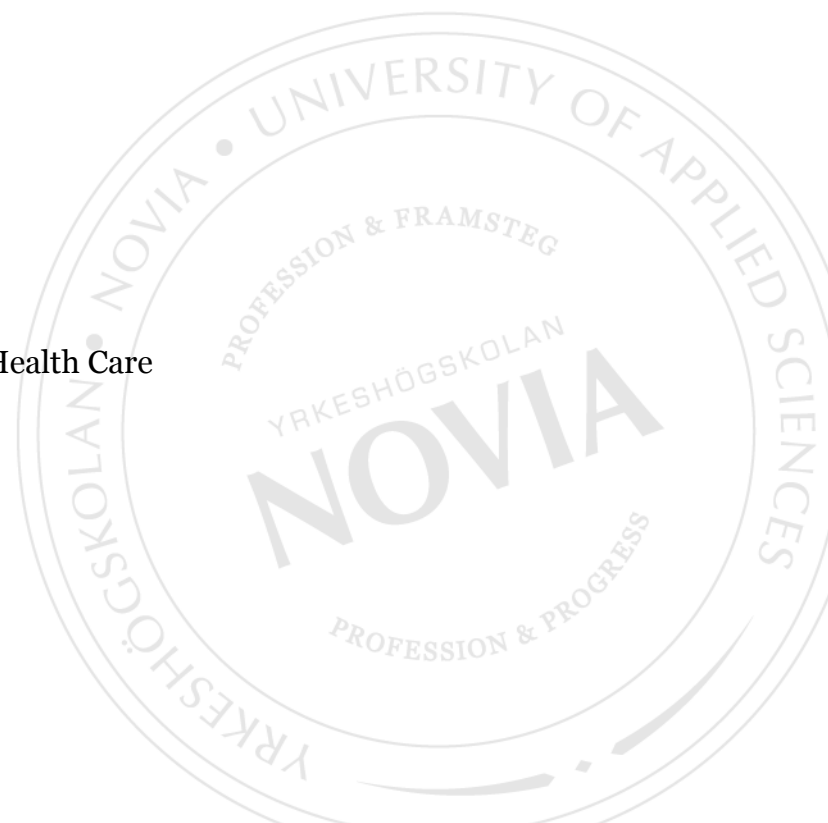
Health Promotion for Overweight Children between the Ages of 7 to 12

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BACHELOR'S THESIS

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Summary

The aim of this study is to investigate health promotion interventions that promote well-being for overweight school children between the ages 7 to 12, and also to remind nurses of their unique role in health promotion for overweight children. The research questions are: what are the consequences of overweight in children, and what interventions can help to promote health for overweight? The researcher used Pender's health promotion theory to enlighten the nurses on how their roles as nurse educators and advocates can help to promote health for overweight school children. This was a qualitative study based on literatures, and content analysis was adopted to analyze the literatures used.

The result of the study showed that the consequences of overweight are not only medical as obvious as it seems but that other consequences such as psychological and social have dangerous effects on the child as much as medical consequences. Likewise interventions programs to promote health for overweight children are approached from psychological, social and medical perspectives. This study gives nurses an opportunity to fulfill the ICN code of ethics for nurses, through educating the affected communities on health promotion and most importantly advocating for a better environment that supports health promoting behaviors.

Language used: English

Key-words: Children, health, health promotion, consequences, overweight, obesity, and nurse.

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Abbreviations

BMI – Body Mass Index

CCOPENI- Community based Childhood Obesity Prevention Environmental Nutrition Intervention

CDC- Center for Disease Control

CVD- Cardiovascular Disease

HPM- Health Promotion Model

HBP- High Blood Pressure

SF- Skin-Fold

WC- Waist Circumference

WHO- World Health Organization

Chapter 1

Introduction

The World Health Organization (2010) estimated that by 2010 there would be over 43 million overweight children under the age of five and it has been known according to surveys that lack of exercise, irregularity in meal time and unhealthy dietary habits are the factors which contribute to overweight (National, Board of Education).

Overweight among Finnish children has also increased significantly over the past decades. The environment, media, availability of food, parents and schools are the factors that have contributed to overweight in Finnish children. According to past research, it has been indicated that the volume and contents of advertisement aimed at children, has an influence on consumption habits. Most foodstuffs marketed for the consumption of children contain high levels of fats, sugar, and salt (National Board of Education).

Imbalance of energy intake is another factor which contributes to overweight and obesity in children. According to some research, high fat intake, high sugar intake, snacking are not necessarily the causes of overweight in children but an imbalance of energy intake. As much as high fats, sugar and snacks are consumed is as much as exercise or physical activities be performed. However, it is recommended that foods high in fats, sugar and snacks be reduced and physical activities be part of children's lifestyle, thereby creating a positive behavior towards a healthier adulthood (Carrie 2004).

Childhood obesity poses serious effects on children, effect such as health consequences, and psychological consequences. Health consequences are elevated total cholesterol, elevated systolic blood pressure and hyper-insulinemia especially in children whose BMI fall below 85th centile. Psychosocial consequences including low self-esteem can be noticed in children who are overweight due to them been teased often and sometimes socially excluded outside their homes. Childhood obesity that continues into early adulthood increases the risk for cardiovascular disease, breast cancer, diabetes type 2 etc. (Carrie 2004; Maffeis, Banzate and Talamini 2008).

A definition for childhood overweight is much more complex compared to the definition of overweight and obesity in adult. In defining or determining childhood overweight and obesity, the age and sex of the child has to be taken into consideration and as such, childhood overweight

is defined as a BMI at or above 85th centile and lower than 95th centile for children of the same age and sex while childhood obesity is defined as a BMI above 95th centile (Nihiser et al. 2007).

The table below shows the BMI cut offs for overweight and obesity in children.

Age (Years)	Male(91st centile BMI) Overweight	98th centile BMI Obese	Female(91st centile BMI) Overweight	98th centile BMI Obese
7	17.8	19.3	18.4	20.2
8	18.3	20	19	21.1
9	18.8	20.8	19.7	22
10	19.5	21.7	20.4	22.9
11	20.1	22.6	21.2	23.9
12	20.9	23.4	22	24.8

Table 1: BMI cut offs for overweight and obesity (Hudson and Christie 2011).

Finding strategies to health promotion for overweight children will involve health professionals and professionals from other fields such as food manufacturing industry, media, sports and leisure. The strategy for these professionals in health promotion for children is to target the root cause of overweight and in order to achieve this target, parent's support and commitment will be needed (Jennings et.al, 2010). Childhood obesity is of high concern in health promotion for children, it is therefore of utmost importance that the whole society is well educated on this study.

In spite of the contributing factors to overweight in children, the role of nurses, school nurses and pediatric nurses in ensuring that children grow healthily cannot be underestimated. It is important that nurses are well educated on foods that provide a good supply of protein and other nutrients, including calcium, iron, zinc, fibers and vitamins A and D (Jennings et al. 2010). The American Academy of Pediatrics also recommends that children be weight and measured once a year to monitor growth, calculate, plot BMI and also offer counseling and behavior interventions when needed.

1.1. Aim and research question

The aim of this study is to find ways on which the well-being of overweight children can be promoted. The researcher would like to study this area to educate health personnel particularly nurses on their role in tackling overweight in children. This is also because, if during childhood

health is not properly promoted, it would lead to overweight in adulthood which would in turn be a risk for developing overweight health related diseases (Whitaker et al. 1997).

The research questions are:

- What are the consequences of overweight in children?
- What interventions can help to promote health for overweight children?

1.2 Structure of the thesis

The thesis is divided into nine chapters. The second chapter discusses the theoretical framework. The third chapter provides background and literature review with the aim of giving supportive measures from the past literature to the issues addressed in the thesis. Chapter four describes the methodological discussions. Chapter five discusses ethical consideration. Chapter six presents the result of the research and the findings. Chapter seven discusses the critical review of the study. And chapter eight deals with the discussion. Finally, chapter nine is about the conclusion.

Chapter 2

Theoretical Framework

This research will be based on Nola Pender's 2006 health promotion model (HPM) (figure 1), which has been revised after her previous model from 2001. In this model, Pender identified the distinctiveness and similarities of HP and disease prevention. Health promotion is defined as the "behavior motivated by the desire to increase well-being and actualize human health potential", while disease prevention, also known as health protection is defined as the "behavior motivated by a desire to actively avoid illness, detect it early, or maintain functioning within the constraints of illness" (Pender, Murdaugh and Parsons 2006). However, both approaches and behavior are crucial to the quality of life at all development stages.

2.1 Nola Pender's Health Promotion Model

To fully comprehend the HPM, Pender's definition of health has to be reiterated, since it serves as the basis of the HPM. Pender defined health as the "actualization of inherent and acquired human potential through goal-directed behavior, competent self-care, and satisfying relationships with others while adjustments are made as needed to maintain structural integrity and harmony with relevant environment" (Pender, Murdaugh and Parsons 2006). The Pender's health promotion model (HPM) is focused on predicting a total lifestyle and certain behaviors, such as exercise, that promotes health. The HPM is not illness or injury specific, it is motivated by approach, and it seeks to grow positive potential for health. The HPM identified three motivational variables that enhance health promoting behaviors. They are: activity related affect, commitment to plan of action, and immediate competing demand and preferences (Pender in Marriner & Alligood, 2010).

Activity-Related Affect describes both positive and negative subjective feeling that takes place before, during, and after behavior that arises based on the effects or stimulus properties of the actual behavior. It influences recognized self-efficacy, meaning a greater positive subjective feeling increases the feelings of efficacy, while increased feelings of efficacy generates more positive affect (Pender in Alligood and Marriner-Tomey 2010).

Self-efficacy is judgment of personal capability to plan and implement a specific course of action. It judges the skills a person possesses, and the ability to accomplish a particular level of

performance which motivate an individual to engage in behaviors in which they perform excellently (Pender, Murdaugh and Parsons 2006).

Commitment to a Plan of Action: this is the conceptualization of intention and identification of a proposed strategy that enhances the implementation of health behavior. It means doing a specific action at a given time and a given place, either alone or with other specified people and the strategies for doing the action or behavior are identified (Pender in Alligood and Marriner-Tomey 2010) Furthermore, strategy to the action plan is selected by the client to energize and reinforce health behaviors based on own preference and level of change, the strategy to the action plan is then mutually agreed, and there is reward for it if commitment is sustained. It is important to note that without associated strategy commitment can only result in good intentions without performing a valued health behavior. Also, clients tend to be more motivated to a plan if commitments are formalized, for example using a nurse-client contract agreements, self-contract, public announcements to family and friends, integrating new health behaviors to daily or weekly calendar, and the purchase of necessary supplies and equipment e.g. low-fat foods, walking shoes, bikes etc. (Pender, Murdaugh and Parsons 2006).

Immediate Competing Demands and Preferences: this refers to alternative behaviors over which a person has relatively low level of control due to environmental factors like work or family demands. The inability to control these elements leads to untoward effects for the self. A Competing preferences are alternative behaviors over which a person has relatively high level of control, thus resisting competing preference depends on a person's self-regulating behavior. For example, a person may give in to competing preference by choosing high fat food rather than low fat food because of flavor, or choose to browse the internet rather than engaging in a physical activity. Competing preferences are last-minute urges, which therefore derail the plan for a positive health action due to one's preference hierarchy (Pender, Murdaugh and Parsons 2006).

Pender, Murdaugh and Parsons (2006) defined health promotion as “the behavior motivated by the desire to increase well-being and actualize human health potential”. The tendency to actualize human health potential increases states of positive tension to promote change, experienced as a challenge that facilitates behaviors to portray human health potential. Thus the purest form of motivation for health promotion can be found during childhood through young adulthood when vitality, energy, and vigor are needed to achieve a health goal or for just pleasure of improving physical appearance.

The assessment of an individual client's health promotion moves beyond physical assessment to a thorough examination of the client's health parameters and behaviors such as (1) functional health patterns, (2) physical fitness, (3) nutrition, (4) life stress, (5) spiritual health, (6) social support systems, (7) health beliefs, and (8) lifestyle components. These health parameters also include health history and physical assessment investigated upon by the nurse (Pender, Murdaugh and Parsons 2006).

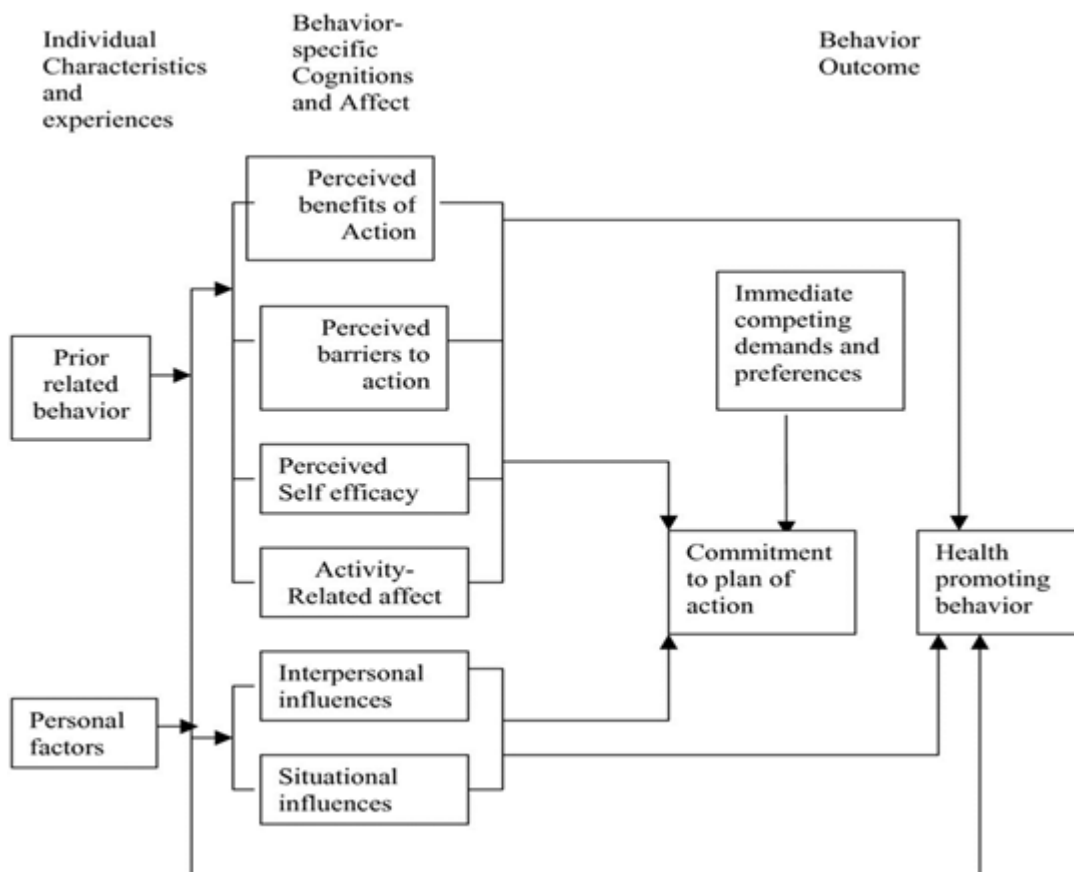


Figure 1 "the Health Promotion Model" (Pender, Murdaugh and Parsons 2006)

Chapter 3

Background and Literature Review

By choosing the most essential articles from earlier studies concerning overweight in children in correlation with physical activity, dietary intake, energy imbalance, and obesity related disease, the researcher is able to make a literature review. In reviewing this literature the study shall use materials from Ebsco and Cinahl as the database for this study, and the key words for my search are: overweight, obesity, health, health promotion, nursing, and, children.

3.1 Overweight and obesity

The concepts of overweight and obesity are labels for ranges of weight that are greater than what is generally considered healthy for a given height and also for weight that has shown to increase the likelihood of certain diseases and other health related problems. Obesity is usually defined as a medical condition where excess of body fat is associated with impaired health (WHO 2000). In this study, both terms will be used interchangeably.

The etiology of overweight and obesity in children is as a result of the combination of several factors; among the factors that influences increased weight gain are genetic, metabolic, behavioral, environment, cultural, and socioeconomic. And among these influences, behavioral and environmental factors have the most potential of impact on the incidence of overweight and obesity. Thereby creating opportunity for nurses to develop intervention programs that can promote behaviors that addresses prevention and treatment of overweight and obesity (Kelly and Patterson 2006).

According to Drohan (2002), obesity is the most prevalent nutritional disease of children and adolescents in the United States, affecting nearly one in five children. Also in Finland overweight has increased 3- to 4- fold in adolescents in the past 30 years (Kautinen et al. 2009). According to a survey carried out in the United States of America between 2005 and 2006, overweight in children is fast approaching a pandemic status affecting all races. 16% of children in the United States of America between the ages of 6 to 11 are overweight, and globally there are approximately 22 million overweight children under the age of 5. It has been predicted that if this problem is left unchecked it could become the leading cause of death, surpassing tobacco (Cornette 2008).

In an effort to combat this alarming rate, nutrition education was encouraged at health centers and also during health supervision visits but despite this effort the rate continues to increase. In determining the prevalence of overweight and obesity in Children, several surveys were carried out, showing that the prevalence has rapidly increased over the last 15 years (O'Neill et al. 2007).

The assessment of the status of the growth and development of children is based on periodic health examinations in pediatric clinics and also in school health services (Vuorella, Saha and Salo 2010). In assessing a child's weight status, removal of shoes and clothes is required; the child's height should be measured with an accurate measuring device while the child is standing upright with the head directly forward and fully extended against a wall (Grimberg and Lifshitz 2007). Whitaker et al. (1997) explains that the body mass index (BMI) is another standard method for assessing the body shape and average adiposity level in children, blood pressure, and serum concentrations of lipids and insulin. Also the waist circumference (WC) measurement is most recommended for the assessment of mid-section obesity in children. Children with a WC above the 90th centile are considered to be at risk for cardiovascular disease than those with a WC below 90th centile (Maffeis, Banzate and Talamini 2008). However, to get more accurate result or information on fat mass, the measuring of skinfold thickness (SF) is preferable, as the SF helps in identifying children who are at metabolic risk. The SF is measured with the use of a caliper, and usually measured at triceps, sub-scapular and supra-iliac sites (Vuorella, Saha and Salo 2010).

3.2. Overweight and Nutrition

According to Moreno and Rodriguez (2007) Overweight and obesity has been described to be one of the most frequent nutritional disorder, and also energy imbalance in children occurring over a long period of time. Likewise, several researchers identified environmental variables like the cost of food, composition of food, regulation and policies of food, urban development, the media, and availability and accessibility of fruits and vegetables are linked to dietary intake in children and thus weakening individual educational and behavioral strategies to prevent and treat obesity in children (Kala 2009). Kelly and Patterson (2006) mentioned socioeconomic factor as one of the etiology of overweight and obesity.

The incidence of obesity is found to be higher within low income population, especially within the African American and Mexican American populations. According to the results of a survey from National Health and Nutrition Examination between year 1999-2000, findings showed that 11.4% of infants were overweight with a BMI of >95th centile, while the rates for non-Hispanic

black was 18.5%. These figures continue to raise within the minority children. The reasons for this steady increase in overweight and obesity among low income populations are eating and exercise habits. In one study it was found that unhealthy eating habits developed as a way of managing multiple stressors of living poor; using food as a coping mechanism to deal with these stressors. Having a healthy weight was of a low priority compared to managing financial hardships, lack of access to services, and poor housing options. Further studies showed that 40% of the money available for feeding in a family is spent on eating out, and 10% of the child's daily caloric intake consists of soft drinks (Kelly and Patterson 2006).

According to a longitudinal study done in American concerning food and energy intake, children who consume food from fast food restaurants tend to choose high energy foods in big portion sizes, accounting for additional total energy of 187 calories, from fats, carbohydrates, added sugar, and sweetened beverages while consuming less of fiber, milk, fruits and non-starchy vegetables. This study further showed that snacking between meals coupled with television viewing during snacking or eating had a significant correlation with body composition changes in girls. The study also showed that the composition of food had an influence on the eating behavior. Meal palatability and high energy density foods are linked; they promote more energy intake which may not be sufficient to suppress hunger. It is stated that low-energy-density foods like fruits, vegetables, and soups provided satiety. However, all of these factors have not been significantly related to obesity to longitudinal studies, but in the meantime emphasis could be made on the consumption of non-sugar sweetened beverages (Moreno and Rodriguez 2007).

In contributing to the promotion of health for overweight and obese children, the CCOPENI (Community based Childhood Obesity Prevention Environmental Nutrition Interventions) aims to find which environmental nutrition determinants can be successfully manipulated to increase the nutritional status of children and also to decrease the prevalence of childhood obesity within target "obesogenic" communities. In finding a strategy to make changes in food environment determinants of increased weight gain among target population, three sub concepts were created Community physical food environment, community economic food environment and community political food environment were created as a means of understanding childhood obesity within target community (Kala 2009).

Physical food environment addresses the availability and accessibility of food within a population, the interventions here include reduction of competitive foods in school, increase in fruits, vegetables low-fat entrees, and non-availability of caloric beverages in school, planting

gardens and initiating farmers' markets. Economic food environment addresses the cost to produce, manufacture, distribute, and retail food within a population by decreasing the cost of healthy foods through increased consumption in community outlets, community food coupons and community food programs such as community kitchens. Political food environment addresses the laws, policies, institutional rules and regulations concerning food in a population by implementing local school food policies that limit high calorie soft drinks in community institutions, and regulating the types of meals served in schools (Kala 2009).

3.3. Overweight and physical activity

Goran, Reynolds and Lindquist (1999) described physical activity as “any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above the basal level”. Thus, physical activities provide the main source of plasticity between energy intake and energy expenditure.

In a research conducted in an elementary and middle public school in America, the school nurses were surveyed concerning their perceptions on the cause of childhood obesity. The result of the survey showed that poor eating behavior and excessive caloric consumption amounted to 94.3% while sedentary lifestyle (95.3%) had a major impact in the development of childhood obesity. Another result from a survey conducted by the Centers for Disease Control and Prevention indicated that 70% of students in the United States do not attend daily physical education classes (Moyers, Bugle and Jackson 2005).

There is substantial evidence that physical activities are sufficient to help decrease the risk of obesity from childhood into adulthood. It is recommended that at least 50% of school children should participate in physical education every day in school, of which 50% of the class period is devoted to physical activity. WHO also recommended environmental modifications that facilitate daily activities, such as walking and biking, rather than vigorous activity. Likewise, the Center for Disease Control recommends several levels of physical activity promotion for children, including policy, environment, physical education, health education, extracurricular activities, parental involvement, personnel training, health services, community programs and evaluation (Goran, Reynolds and Lindquist 1999).

However, several determinants have been identified as barriers towards these recommendations. There are for example seasonal factors; The National Children and Youth Fitness Study (NCYFS) suggested that children record a higher activity level in the summer than in the fall and

winter. Another barrier is parents or role models; as children whose parents are inactive physically tend to follow the path of their parents, in the same way children whose parents are physically active have been shown to be significantly active. The environment is another factor, such as the availability of facilities for activity, physical safety and climate. Also the psychological factor cannot be overlooked, such as attitudes, enjoyment of physical activity, motivation to exercise, personal control, perceived benefits of exercise, health beliefs, and self-efficacy (Goran, Reynolds and Lindquist 1999).

According to Mason et al. (2008), interventions to weight loss in children should be focused on modifying eating and physical activity habits to allow for a formation of a new behavior that could result in lifelong changes. The approach of calories consumed to the amount of calories expended seems to work for adult, while this is different for children because they are still growing and therefore weight loss for children should be at a slow rate leaving an opportunity to grow in height as well for a corresponding decrease in BMI and formation of healthy behavior.

3.4. Social Implication of childhood Overweight

Childhood overweight and obesity plays a significant negative role in the social and psychological aspect of a child's life, including a lower self-esteem, poor relationships with peers, stigmatization, isolation, low academic performance, victims and likewise perpetrators of bullying behaviors than normal weight children (Judge and Jahns 2007).

In a research conducted in the United Kingdom, several research articles were reviewed by searching databases such as EBSCO, CINALH, MEDLINE, Joanna Briggs Institutes, National Institutes of Health, and Psychological and behavioral Sciences Collection. The reviews were about the emotional and psychological effect of overweight and obesity in children. The studies showed that there is a correlation between overweight and low self-esteem in girls while overweight boys tend to show less or no emotional consequences of being overweight. Girls were more likely to suffer high discontentment with their body shape and size, thus they were keener on dieting as a means of improving their self-worth. Also, a further research showed that girls are influenced by the media and their mothers, since mothers express their fears concerning their daughters' weight status. The study in general showed that childhood overweight has an adverse effect on the child's self-esteem, self-image, and self-concept (Cornette 2008).

A longitudinal study conducted in the United States of America, examining the relationship between overweight in children and their social and educational performances. The study

collected detailed information of third grade children from their teachers, and parents through the use of questionnaires. The result was that overweight affects social and behavioral outcomes in girls, girls were likely to exhibit lack of self-control by outward behaviors such as arguing, and fighting and also exhibit unacceptable internal behaviors such as loneliness, sadness, depression and nervousness which subsequently contribute to developing clinical eating disorders and also affecting their academic performance (Judge and Jahns 2007).

Further study on the comparison of mean test scores in reading and math showed that overweight affected academic performances. The items for the reading test included phonemic awareness, single-word decoding, vocabulary, and passage comprehension. The items for the math test included focus on conceptual and procedural knowledge, problem solving, number sense, number properties, number operations, measurement, algebra, and geometry. The results of the test showed that both overweight boys and girls had a lower score on the reading and math assessments, while overweight girls' approaches to learning, self-control, and interpersonal skills were lower than non-overweight girls (Judge and Jahns 2007).

From several studies concerning social impact of overweight on children, there is substantial evidence that social aspect of overweight has always been overlooked, for example mothers have expressed their fear towards stigmatization of their children even at sports clubs as coaches tend to see the overweight child as less competitive. Also, health professionals and teacher often blamed the parents for allowing their children become overweight. These kinds of problem leave parents with less income hopeless. Parents with more income have a higher chance to effect changes such as relocating to a more acceptable community, change schools, conducive holiday resorts. However, it was suggested that psychological counseling on financing, self-confidence programs, and advice on schooling may help in improving the progress of the intervention processes (Edmunds 2008).

3.5. Health Implication of childhood Overweight

In spite of the significant attention given to childhood obesity and overweight, the rates of obese children continue to double, and there is also an increasing the numbers of children who suffer from chronic diseases such as type 2 diabetes, and high blood pressure. It is even stated that among some population 50% of cases of type 2 diabetes are children (Kelly and Patterson 2006). Shepherd(2004) also stated that more than 30% among the cases of diabetes mellitus in the U.S are children aged between 10 to 19 years. Among other health risk associated with childhood overweight are: atherosclerotic lesions in the aorta and coronary blood vessels, orthopedic

problems such as slipped capital femoral epiphysis, Blount's disease (tibia varia), pulmonary disorders (asthma and sleep apnea), gallstones, and hormonal disturbances., However, Shepherd (2004) points out that a thorough clinical examination is needed , since several overweight children tend to be clinically healthy.

3.5.1. Overweight and hypertension

The reports of some studies have shown that systolic and diastolic blood pressure (BP) are significantly and positively affected by body mass index (BMI) (King et al. 2006). According to the National High Blood Pressure Education Program (2004) hypertension in children is defined as average systolic blood pressure (SBP) and diastolic blood pressure (DBP) that remain above or at the 95th centiles after repeated measurement for gender, age, and height, but average SDP level and DBP level that is less than or at 90th centile and less than 95th centile can be referred to as “high normal”. This level (120/80 mm Hg) of blood pressure is referred to as “pre-hypertensive” and an indication for modification of lifestyle. However to confirm BP it is recommended to measure three or more times, and once at every health care check-up. The BP can be measured by auscultation, but to minimize chances of observer error the BP can be measured with an oscillometric device and, while at school the BP should be measured with a standard clinical sphygmomanometer, placing a stethoscope over the brachial artery pulse, the bell of the stethoscope makes it easier to hear the korotkoff sounds. It is important to avoid any stimulant food or drug before BP measurement, the child should be allowed to seat quietly with back and arms supported and feet on the floor for five minutes. It is also best to use appropriate cuff size, covering about 80% to 100% of the circumference of the arm.

Primary hypertension is often associated with other risk factors such as CVD, low plasma high-density lipoprotein cholesterol, elevated plasma triglyceride, and abnormal glucose tolerance. Thus, a comprehensive assessment for CVD and other risk factor should be carried out with additional information of medical history, physical examination, and laboratory evaluation. To further detect CVD risk, a fasting lipid panel and fasting glucose level should be taken for overweight children who have BP between 90th to >95th centile and when there is a family history of type 2 diabetes, a glucose tolerance test can also be taken. Other diseases associated with hypertension include sleep disorders like sleep apnea. It is reported that about 15% of overweight children snore while they are sleeping, and 1% to 3% have sleep disordered breathing (National High Blood Pressure Education Program 2004).

Hypertension in children affects organs of the body; the left ventricular hypertrophy is a major clinical evidence of organ damage and it has been reported to affect 34% to 38% of children, with 55% having a left ventricular mass index of >90th centile. It was examined that 17% had concentric hypertrophy, making a higher risk factor for CVD. To determine the presence of LVH, hypertensive children should have an echocardiographic measurement; this measures the thickness of the left ventricles, a cut point of 51 g/m (2.7) equates to left ventricular mass index of >99th centile for children. However, when interpreting the result factors such as obesity and hypertension can have pathological effects on the heart (National High Blood Pressure Education Program 2004).

The strong correlation between weight gain and BP leads to the need to maintain normal weight or reduce excess weight which consequently reduces the ranges of BP. This can be done either therapeutically or pharmacologically. Placing emphasis on the management of complications rather than overweight makes the aim of weight management a health goal rather than an aesthetic goal. In a motivated household, education or just behavior modification can lead to success in achieving moderate weight loss or help to prevent weight gain. In a care setting, clients or patients (children) can be encouraged to identify physical activities that they enjoy and self-monitor time spent in physical activities (30-60 minutes per day) rather than time spent in sedentary lifestyle, such as watching television and playing computer games. Limiting time spent in sedentary activities to <2 hours per day helps to prevent obesity, hypertension and risk factors for CVD. Dietary changes can be made, involving smaller portions of regular meals, reduction in consumption of sugar-containing beverages and snacks high in energy, reduction of sodium, increase in consumption of fresh fruits and vegetables, and a healthy breakfast. Therapeutic lifestyle changes are beneficial to all children in prevention of comorbidities, and primary hypertension related to overweight (National High Blood Pressure Education Program 2004).

According to The National High Blood Pressure Education Program (2004) pharmacological therapy (antihypertensive drugs) such as esmolol, enalaprilat, nicardipine, hydralazine, isradipine, etc. can be considered in treating weight related hypertension in children when hypertension is symptomatic, secondary hypertension, when hypertension affects organs (LVH), failure of therapeutic lifestyle changes (non-pharmacological measures), presence of multiple CVD risk factors such as elevated BP, dyslipidemia, etc. The target BP for children with uncomplicated primary hypertension with no organ of the body affected should be <95th centile for gender, age, and height while the target BP for children with organ damage and comorbidities should be <90th centile for gender, age, and height. However, it is important to note that while

antihypertensive therapy is ongoing, there should be ongoing monitoring of organs affected, BP, side effects of medications, periodic monitoring of electrolytes when children are treated with ACE inhibitors or diuretics.

3.5.2. Overweight and cardiovascular diseases

According to (Praveen, Roy and Prabhakaran 2012), cardiovascular diseases (CVD) are usually manifested in the middle age of a person however signs of atherosclerosis like fatty streak, fibrous plaques can be found in children. The result of a school based survey showed an increased prevalence of metabolic and dietetic coronary at an early age and its positive correlation with known risk factors associated to CVD in adults, also similar results were found through the use of non-invasive markers of atherosclerosis such as carotid intima-medial thickness and arterial distensibility. Pre-natal factors like maternal adiposity, gestational weight, maternal nutritional deprivation, exposure of fetus to a maternal hyperglycemia environment, exposure to smoking were shown to be key initiating factors leading to CVD in the later life of a child. Also post-natal factors also, such as low birth weight, rapid weight gain during childhood, nutritional intake, and sedentary lifestyle were associated to pro-inflammatory/pro-thrombotic state which could be a forerunner of CVD in adulthood. Some studies also showed that family history of premature CVD can be a risk factor for future CVD coupled with an adverse lifestyle.

Several determinants have been proven to be risk factors for CVD in adulthood, and as a means of preventing cases of CVD and control of its risk factors, various preventive programs have been recommended for weight reduction. These include regular physical activity, diet modification with less use of sugar-sweetened beverages, increased intake of fruits/vegetables, and reduced usage of electronic devices (Praveen, Roy and Prabhakaran 2012). The American Heart Association also proposed a guideline or a schedule of cardiovascular health promotion in children. This schedule is to serve as a guide for risk factor modification in pediatric clinical practices

Age	Family	Schedule for health promotion
6-10	<ul style="list-style-type: none"> • Update family history • Early heart disease before 	<ul style="list-style-type: none"> • fasting lipids screening, plot height, weight, and BMI on growth chart, BP measurement, diet history, physical activity history, parental/household smoking, family of cholesterol • Family of cholesterol, BMI percentiles, BP

10>	<p>55 years of age</p> <ul style="list-style-type: none"> • Parental total cholesterol at or > than mg/dL 	<p>percentiles, low saturated-fat diet, including 1% or non-fat milk. Lifestyle and family activities. Smoking- if yes, counsel to quit.</p> <ul style="list-style-type: none"> • Moderate salt intake. Reduce sedentary behaviors such as watching television. • Same health promotion schedule including, daily moderate to vigorous activity (60 min/d). Antismoking counseling for the child
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Table 2: Schedule for integrated cardiovascular health promotion in children (Praveen, Roy and Prabhakaran 2012)

Diet is an important aspect of overweight and CVD, a diet low in fat and low in cholesterol during childhood significantly decreases the total cholesterol, low density lipoprotein cholesterol. To maintain a healthy diet and prevent CVD, there has to be a strict maintenance of calorie requirement in accordance of the sex and age of a child. Likewise, physical activity has a beneficial effect on the intermediate risk factors of CVD in children such as obesity, hypertension, blood lipids, and insulin sensitivity. Since children are the main focus of these studies, it is recommended that the benefits of healthy diet and physical activity be included in the school curriculum, facilities for physical activities should be made available in communities, neighborhoods and public schools, and also time should be reserved especially for physical activity (Praveen, Roy and Prabhakaran 2012).

3.6. Role of Health professionals

Without any doubt, health professionals involved in the health promotion for overweight and obesity of children include nurses, school nurses, pediatricians, physicians. However, it is important to note that all of these health professionals have different functions or roles in tackling overweight and obesity in children.

3.6.1 Role of nurses

According to Epstein et.al (2010), nurses are part of the multidisciplinary weight-management team for children, and also in this team are pediatricians, pediatric dietitian, pediatric clinical nurses and pediatric psychiatrics.

An exploratory transversal study revealed the responsibilities of the nurse in tackling childhood obesity and recommended that nurses should perform nutritional assessment at schools, or

participating in health education programs. These are some of the roles of a nurse in this multidisciplinary weight-management team. Nurses are also required to screen all school children for hypertension, as there is a possibility for overweight children to show no symptoms of hypertension; likewise, normal weight children could show signs of elevated blood pressure. The screening should be systematically done; following the research based national recommendation of BMI calculation including age-and gender-specific and BP determination, so as to yield a reliable and valid data, and also to focus on the disease (overweight) rather than on the client (Epstein et al. 2010).

In another study, the roles of nurses, particularly school nurses, were stated as advocating for policies that improves the health of children such as primary prevention of cardiovascular disease, since cardiovascular diseases can be a progressive illness which develops over a long period of time, school nurses also have a role for advocating for the recommendations of physical education, and physical activity as part of school curriculum, noting that physical inactivity is a major contributor to being overweight. Focusing on self-perception helps the nurse to pass on her interventions, positive aspects and emphasis on eating behavior and activity helps to identify self-esteem reinforcement goal for the nursing intervention. School nurses can also integrate health promotion and primary prevention activities that focus on the unique needs of the rural population, like physical education, and development of recreational facilities which can be accessible to larger percentage of school children (King et al. 2006). Epstein et.al (2010) likewise reported high patient satisfaction through the efforts of nurse practitioner consultation. According to Pender, Murdaugh and Parsons (2006), nurses have the responsibility to counsel clients about their health behaviors. The nurse should possess the necessary skills to guide clients.

However, there could be challenges for the school nurses such as collaborating with all resources needed to develop school-based intervention programs to ensure students are not only screened but that they are also participating effectively in the intervention programs to reduces progressive risk factors like high BP and overweight (King et al. 2006).

3.6.2. Role of physicians

According to Shephard (2004), proportions of overweight and obesity have increased in both indigenous populations and developed societies, thus a thorough assessment is needed to establish the main cause of the epidemic, but some correlational analysis has shown a close link between content of body fat and a continuous decrease in daily energy expenditure. The

consequences for this are an increased prevalence of atherosclerotic plaques, hypertension, poor self-image, etc. Consequently, it is the physician's responsibility to establish if a child is overweight or obese.

Obesity and overweight in children is defined as BMI at or above 85th centile and lower than 95th centile depending on the age and sex. However, some practicing physicians have said the BMI has important limitations in assessing obesity although it is a useful epidemiologic tool. A large body mass could either reflect actual body fat or muscular development of a well-trained football player (Shephard 2004). Therefore, it is important that a proper clinical examination is conducted to enhance better treatment for the obese child. A growing proportion of physicians are opting for the use of caliper measurement of skinfold thickness which gives a better understanding of simple index of the amount and distribution of body fat. The skinfold measurement can be obtained from a variety of body sites like the triceps and subscapular; it helps to distinguish between peripheral obesity and metabolic abdominal accumulation of fat. The data obtained from the skinfold measurement can be interpreted just as for BMI, with breakpoints for obesity and overweight placed at 80th and 90th centiles of age- and sex- specific (Shephard 2004). More so, children who are above 50th centile of body fat are recommended for dietary modification and more of moderate physical activity. The table 3 below shows the skin-fold thickness indicating obesity (mm).

Age	Boys			Girls		
	50 th	80 th	90 th	50 th	80 th	90 th
7	14	19	26	17	25	32
8	15	22	33	19	30	38
9	16	26	36	21	34	43
10	17	25	35	20	29	36
11	18	26	36	21	33	40
12	17	28	38	22	31	40

Table 3: the skin-fold thickness indicating obesity (mm) (Shephard 2004)

Other functions of the physician include becoming a strong advocate of daily physical education throughout the 13 years of school attendance, while paying attention to the duration, type, and intensity of physical education. The physician can also advocate for a better comprehensive change of lifestyle, by walking, cycling, and doing other forms of physical activity daily. A

cooperative school-based educational program can also promote both physical activity and a healthy diet through the support of teachers, catering service, and parents (Shephard 2004).

Chapter 4

Methodological Discussions

Research methodology refers to techniques a researcher uses to structure a study and to gather and analyze information that are relevant to the above research questions and aim. This research was carried out by using a qualitative research method. This research method is considered suitable for this type of work since it involves using an emergent design that allows the researcher to make ongoing decisions reflecting what has already been learnt (Polit and Beck 2012, pp.12,487).

4.1. Qualitative Research

According to Polit and Beck (2012, pp.739) a qualitative research method is defined as “the investigation of phenomena, typically in an in-depth and holistic fashion, through the collection of rich narrative materials using a flexible research design”. Qualitative research addresses many of the same problems but with different viewpoints thus, organizing the findings according to the major themes identified in the data, it results are categorized into subsections which corresponds with the themes; thereby allowing for the possibility of a researcher’s emerging theory concerning the phenomenon being studied. Furthermore, a qualitative research is often conducted for the use and benefit of others; it helps to shape the perception of nurses concerning a giving problem, their conceptualization of possible solution and, their knowledge of patient’s problems and experiences (Polit and Beck 2012, pp.63-65).

Advantages of Qualitative research:

- Involves integrating several data collection methods.
- It is flexible, able to adjust to incoming information during the process of collecting data.
- Gives an holistic approach to what is being studied, aspiring for a complete understanding of the study (Polit and Beck 2012, pp.487).

Disadvantages of Qualitative research:

- It requires deep involvement on the part of the research, causing a longer duration during the process of data collection, in which the researcher becomes the object or instrument of research.

- It involves continuous analysis of the data to formulate emerging plans and to determine when the study or field work is completed (Polit and Beck 2012, pp.487).

In conclusion, qualitative researchers are required to be ready for a variety of circumstances that may arise, and decide how to resolve them in view of time, place, and human interaction. Nurse researchers are required to reflect on how the results could be used by practicing nurses, thereby enhancing the potential of evidence based practice (EBP) (Polit and Beck 2012, pp.488).

4.2 Data Collection and Analysis

The databases used for the collection of information used in this research were articles from EBSCO, CINAHL and Google that had been peer reviewed, as well as books from VAMK library in Novia, and AMK. The collected data had been published between the years 1999-2012, with the exception of two from year 1986 and 1997. Most of the materials collected were from nursing and medical science sources. When searching for articles keywords or terms such as health, health promotion, obesity, overweight, children, intervention, nutrition and nursing were used. The searches were done at different times between the months of January 2012 to September 2012. In these periods, the searches yielded approximately 130 of which 34 were selected based on their suitability with the aims and questions of this study.

4.2.1 Data Analysis

Morse and field (1995) defined qualitative data analysis as a “process of fitting data together, of making the invisible obvious, and of linking and attributing consequences to antecedents. It is a process of conjecture and verification, of correction and modification, of suggestion and defense” (as quoted in Polit and Beck 2012, pp.557). Data analysis is done for the purpose of organizing, providing structure to, and bringing out meaning from the data. In qualitative studies such as this study, the data collection and data analysis were done simultaneously, searching for important themes and concepts the moment data collection gets underway. However, challenges are attributed to qualitative data analysis since there are no laid down rules and standard procedure for analyzing data. This poses a difficulty to present the validity of the findings clearly. Also, qualitative data analysis requires enormous amount of work while trying to organize and make meaning from several pages of narrative materials and the need to be brief while maintaining the richness value of the data (Polit and Beck 2012, pp.556).

In a qualitative study, data can be analyzed in several methods such as manual method, computer program, general analytic overview, content analysis, ethnographic analysis, phenomenological analysis, and grounded theory analysis.

4.2.2. Content Analysis

In this study, the researcher used content analysis to analyze the data obtained during the study and to present the results of the findings. Polit and Beck (2012, pp.564,723) described content analysis as “analysis of the content of narrative data to identify prominent themes and patterns among the themes” and “the process of organizing and integrating material from documents, often narrative information from a qualitative study, according to key concepts and themes” This method of data analysis involves breaking down data obtained into smaller units, coding and giving names to the unit corresponding to the content which they represent, and grouping coded materials based on similar concepts or ideas.

Elo and Kyngäs (2007) identified two approaches to content analysis; inductive and deductive content analysis. Inductive content analysis is used in a situation where there is not substantive previous knowledge about a given phenomenon, it moves specific knowledge to general knowledge, while deductive content analysis is used when the structure of analysis is conducted based on previous knowledge such as theories, models, mind maps and literature reviews for the purpose of testing theory, categories, concepts, models or hypothesis, therefore moving from general knowledge to a specific knowledge. Furthermore, researcher who use any of both approaches are guided by their research questions and aim of study, inductive content analysis has been used in studies concerning an environment that supports well-being for elderly people and, support network of young people with chronic disease, while deductive content analysis has been used for studies concerning patient’s readiness to make dietary changes and, self-care of the elderly. This research will be conducted based on the deductive content analysis, because the study will be based on previous literatures. The advantage of this is that materials gathered will support the study in a global perspective, as well as culturally (Polit & Hungler 1995).

The process of analysis and presentation of results should be described sufficiently to enable readers have a vivid understanding of how the analysis was conducted and its strengths and limitations. This is often referred to as trustworthiness in relation to the concepts of validity, reliability, dependability, transferability and credibility. Furthermore, authentic citations increases the trustworthiness of the research, pointing out to readers from where original data categories are formulated (Elo and Kyngäs 2007), (Graneheim and Lundman 2003). In addition,

Krippendorff (2005) mentioned clustering as a means of representing the results of content analysis. “Clustering is based on similarities among units of analysis and hierarchies that conceptualize the text on different levels of abstraction” (as quoted in Polit and Beck 2012, pp.564).

1. Validity of Content Analysis

This involves merging together several sources of information which is known as triangulation. Triangulation gives credibility to research findings by the use of multiple referents about the same phenomenon to make conclusions about what constitutes truth. The purpose of this method of validation is to override any form of bias that is likely to arise in studies of single-method, single-observer, and single-theory (Polit and Beck 2012, pp.590), (Stemler 2001).

2. Reliability of Content Analysis

Reliability involves showing a link between the results and the data it is important for the researcher to describe the process of analysis in sufficient details when giving the report of the results. Tables and appendices can be used to demonstrate the links between results and data (Elo and Kyngäs 2007).

3. Credibility of Content Analysis

Credibility addresses the main idea of the research and refers to confidence in how effectively the data and process of data analysis tackled the proposed aim. Ensuring no relevant or irrelevant data have been excluded or included systematically, credibility also deals with the ability to discern similarities and differences between categories (Graneheim and Lundman 2003).

4. Transferability of Content Analysis

Transferability refers to the extent of which findings can be applied in another setting or group. It becomes the researcher’s responsibility to provide vivid and sufficient details concerning the description of the data or findings to enable readers ascertain whether or not the findings can be used in another setting or context (Polit and Beck 2012, pp.585), (Graneheim and Lundman 2003).

5. Dependability of Content Analysis

Dependability deals with factors of stability and time, it seeks to answer the dependability question of: “would the findings of an inquiry be repeated if it were replicated with the same (or similar) participants in the same (or similar) context?” (Polit and Beck 2012, pp.585). It is important to note that when data are extensive and the collection process is prolonged, there is likely to be some risk of inconsistency when collecting data, as well as on the part of participants, interviewers, and observers since new insights are likely to be acquired which can narrow the focus. However, open dialogue within the research team can address these factors (Graneheim and Lundman 2003).

Chapter 5

Ethical Consideration

According to Polit and Beck (2012 pp.168) ethics in research is not limited to the protection of humans and animals, but also the protection of public trust which is termed research misconduct. The U.S. Public Health Service regulation 2005 defined research misconduct as “fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.” It does not include opinion differences such as honest, unintentional error or authorship disputes such as personal disputes or violation of grant management policies (Steneck 2004).

Fabrication is making up data or research results and reporting them, Falsification is manipulation of research materials, equipment or processing by either changing data or omitting data or intentionally distorting results to make the research reports inaccurate. Plagiarism is the appropriation of another person’s ideas, results, or word without giving proper credit or referencing (Polit and Beck 2012, pp. 169). Steneck (2004) identified four values for a responsible conduct of research; honesty, accuracy, efficiency, and objectivity. Honesty is reporting information truthfully and honoring commitments, accuracy is reporting research findings as they are and avoiding error, efficiency is making use of resource wisely and avoiding waste, objectivity is allowing the facts speak for themselves and avoiding improper bias. These values lead to the term research integrity. According to Polit and Beck (2012 pp.169) research integrity is an important concern in nursing.

According to the ICN Code of Ethics for Nurses (2006), the nurse has four principal obligations that outline the standards of ethical conduct: nurse and people, nurse and practice, nurse and the profession and, nurse and co. workers. In this research, an element of the four obligations for nurses can be seen or perceived. From the aim and research questions of this research and the review of literatures a reflection of an element of the obligations is seen. This research seeks to enlighten nurses on their role on health promotion for overweight children, to instill in patients or clients the importance of social action concerning their health issues, to advocate for safe and healthy environment, to promote the importance of personal health, and to develop understanding of the roles of other workers both health and non-health related workers (ICN Code of Ethics for Nurses, 2006).

Chapter 6

Presentation of results

The result will be presented based on the literature review of the study. A literature review was conducted that focused on global health promotion for overweight children, the causes of the pandemic, the consequences in relation to mental, social and medical health well-being, and interventions for the pandemic in relation to exercise, nutrition, roles of health professional, and lifestyle modification. The search period or data collection period was between the months of January to September 2012. The keywords used were: nurse, obesity, overweight, consequences, health, health-promotion, intervention, and children. An electronic search was performed using databases of CINAHL, EBSCO, and Google. A total of approximately 130 articles were yielded in the searches of which 34 articles and 3 books were used. Among the 34 articles used, 13 articles and 1 book were chosen to be base of the analysis. These 13 articles had some information which was centered on the topic of this research (health promotion for overweight children between the ages of 7 to 12). The articles were peer reviewed published between the years 2000 to 2012 with an exception of three articles from year 1986, 1997 and year 1999.

The articles which the researcher is basing the presentation of results will be mentioned and categorized according to the related themes they belong. The articles addressed the concept of the problem been studied as well as health promotion activities both behavioral and pharmacological approaches for overweight children between ages 7-12.

Author	Topic	Journal	Theme-related
Mason et.al	Childhood Obesity: a trans theoretical case management approach	Journal of Pediatric Nursing	Problem
Hudson and Christie (2011)	Tackling overweight and obesity in the school setting	British Journal of School Nursing	Problem
Lawrence (2010)	The impact of stigma on the child with obesity: Implications for social work practice and research	Child Adolescence Social Work	Problem
Goran, Reynolds and Lindquist (1999)	Role of physical activity in the prevention of obesity in children	International Journal of Obesity	Health promotion/ Problem
Shepherd (2004)	Role of the physician in Childhood obesity	Clinical Journal Sport Medicine	Health promotion
Epstein et.al	Role of a clinical nurse	Journal of Clinical	Health promotion

(2010)	specialist within a pediatric multidisciplinary weight-management programme team	Nursing	
King et.al (2006)	Prevalence of elevated body mass index and blood pressure in a rural school-aged population: implication for school nurses	Journal of School Health	Health promotion
The National High Blood Pressure Education Program (2004)	The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents	Pediatrics	Health promotion/Problem
Edmunds (2008)	Social implication of overweight and obesity in children	Journal of Specialists in Pediatric Nursing	Health promotion
Kala (2009)	Childhood obesity prevention. Focusing on the community food environment	Family and Community Health	Health promotion
Pradeep, Roy and Prabhakaram (2012)	Cardiovascular disease risk factors: A childhood perspective	Indian Journal Pediatric	Health promotion
Judge and Jahns (2007)	Association of overweight with academic performance and social and behavioral problems: an update from the early childhood longitudinal study	Journal of School Health	Health promotion
Cornette (2008)	The emotional impact of obesity on children	Worldview on Evidence-Based Nursing	Health promotion
Pender, Murdaugh and, Parsons (2006)	Health promotion in Nursing practice	Pearson Education, Inc.	Health promotion

Table 4: List of articles selected for the study

6.1 Problem (consequence of overweight on children)

Overweight in children has become a problem all over the world, it cuts across borders, ethnicity and, social status. This problem affects the future of children. Promotion of health is urgently required. However before discussing the health promotion activities the consequences of

overweight in children will be discussed briefly. The researcher will use some of the above articles in the table to explore the consequences of overweight on children.

Results from several studies have shown that an overweight child is prone to several problems from psychological, societal and, medical perspectives.

Cornette (2008), Lawrence (2010) and, Judge and Jahns (2007) share similar opinions on the psychological effects of overweight and obesity on children. They claim that overweight and obese children suffer problems of depression, low self-esteem, and poor academic performance. Judge and Jahns (2007) further explained that overweight girls exhibit undesirable internal behaviors such as loneliness, nervousness and, sadness which makes them act out behaviors such as arguing and fighting. Depressive symptoms due to weight concerns, stigmatization from both peers and teachers further leads to poor performance.

The societal effects of overweight and obesity include stigmatization, social isolation and bullying behaviors. Judge and Jahns (2007) and, Lawrence (2010) share similar opinions. They claim that overweight and obese children tend to be victims and perpetrators of bullying behaviors and also being teased about their weight. Lawrence (2010) further claimed stigmatization and social isolation is due to a variety of societal perception of an overweight or obese individual. Perceptions from family, peers, teachers, media, and the community cause stigmatization for overweight children. Health care personals discriminate against overweight children because of the perception that they are lazy without self-discipline. Media portrayal of an ideal shape influences stigmatization against overweight children and also family members or parents can influence stigmatization against overweight children by their biased attitude among normal and overweight children, as parents who are blamed for their children's weight tend to develop negative attitude towards the overweight child. Below are excerpts of interviews with parents from a study.

“I’ve suffered all my life”, “He doesn’t tend to be here evenings and weekends when she’s constantly asking for food... (he) hasn’t had the experience of taking her to the doctor, trying to buy clothes”, “My husband was so embarrassed and made some comments about it (eating chocolate cake at a party), but L took notice and just sat down and ate them” (Edmunds 2008).

The statements above explain the concerns and fear of parents towards their overweight children. With these issues, it is clear that a critical strategy is needed to tackle the societal problems of being an overweight child.

The medical effects of overweight and obesity are well known, Shephard (2004), King et.al (2006) and, Pradeep, Roy and Prabbhakaram (2012) share similar opinions on this aspect, as they all claim that overweight and obesity in children will result in high blood pressure, cardiovascular diseases, orthopedic diseases, diabetes and, sleep disorders.

6.2 Health Promotion

According to Pender, Murdaugh and Parsons (2006) health promotion is an integral part of health care; it is an active desire to improve well-being. A need to improve well-being is the essence of health promotion. However, from this study health promotion is seen from two angles; firstly to reduce existing problem (overweight in children) and, secondly to promote well-being. But the threat of chronic illness in the long run cannot be ignored as the essence of health promotion. Health promotion involves active participation of two parties; the health promoter (health care personals) and the client. According to Pender, Murdaugh and Parsons (2006), health promotion is improving well-being for the purpose of reaching human health potential; the action taking should be motivated by behavior that is a continuous day to day action that eventually becomes a lifestyle. The (WHO 1986) also defined health promotion “as the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment.” Strategies for promotion of health for overweight and obese children can be achieved from three perspectives: the psychological approach, the societal approach and the medical approach. Health care personals particularly the nurse has a unique role in making health promotion available to all.

6.2.1 Psychological approach

The Oxford Advanced Learner’s Dictionary (2000) defined psychology as “the scientific study of the mind and how it influences the behavior”. Overweight children suffer psychological problems which are due to their weight status; these problems tend to become an obstacle towards health promotion. A health related behavior change is essential, and according to Mason et.al (2008) to achieve a lifelong behavioral change involves the awareness of the parent and child on the need for maintenance of appropriate eating habits and physical activity goals. Maintaining current body weight or reducing existing weight should be done systematically and slowly. Goran, Reynolds and Lindquist (1999) claimed that physical activity is not only

beneficial to body weight regulation but that is also improves lifestyle patterns, psychological (attitudes or enjoyment of physical activity, motivation to exercise) and social well-being.

Pender's HPM identified three motivational variables for health promotion behaviors: activity related affects, commitment to a plan of action, and immediate competing demand and preferences (Pender in Marriner & Alligood, 2010). Commitment to a plan of action is particularly useful in this approach because, it requires the client to select action plan to energize and reinforce health behaviors based on own preference and level of change. This strategy enables the child to have a certain degree of control over own health, which also has the potential of boosting the child's self-esteem, self-perception, and self-motivation. The National High Blood Pressure Education Program (2004) and Mason et.al (2008) supports this idea that children should be encouraged to identify physical activities that they enjoy and also self-monitor the time spent in engaging physical activity; for example spending 30 to 60 minutes per day in physical activity rather than engaging in sedentary activities such as watching television, and playing computer games. Moreover, Edmunds (2008) suggested that parents should be counseled about financing to enable them to provide healthy foods to their children, self-confidence programs for the children to help them deal with the issues of low self-esteem.

6.2.2 Societal approach

The society plays a significantly negative role on the promotion of overweight among children; coincidentally the society also has a significant responsibility of promoting health for overweight children. The Oxford Advanced Learner's Dictionary (2000) defined society as "people in general, living together in communities: policies that will benefit society as a whole". Unarguably, schools, health centers, shopping malls, the gym etc. are all part of the community. In this regard, health promotion can be viewed as a social goal which entails working with all part of the community to reduce conditions which promotes overweight in children.

Kala (2009) identified three concepts in which (Community based Childhood Obesity Prevention Environment Environmental Nutrition Interventions) CCOPENI used to address environmental nutritional status of children. These concepts are physical, economic and political food environments. Physical food environment entails making food available and accessible by reduction of competitive food in schools, availability of fruits, vegetables, and low-fats entrees in school, planting gardens and initiating farmers' markets in the community. The economic food environment entails reducing the cost of production, manufacturing, distribution and retailing of healthy food. Political food environment focuses on the laws, policies, institutional rules and

regulations concerning food available in a community for example, implementing policies to limit high calorie soft drinks in community schools, and regulating the kinds of meals that are served in schools. This strategy to health promotion is particularly useful in an overweight or obese population, because it promotes positive behavior.

The WHO and CDC, have a different strategy to societal approach to health promotion for overweight children. They recommended that environment be modified to facilitate every day activities, such as walking and biking and providing equipment for physical activity, and safe play areas for children (Goran, Reynolds and Lindquist 1999). The school nurse also has a social responsibility of integrating health promotion and primary prevention activities that focus on the unique needs of the rural population such as: physical education, and development of recreational facilities that school children can use (King et al. 2006).

6.2.3 Medical approach

The strong correlation between weight gain and all the medical health consequences listed in the previous sub-chapter leads to the need to maintain normal weight and reduce excess weight. Likewise, in several medical literatures, reduction of weight is advised as part of treatment (lifestyle modification) for medical conditions. Therefore, to lose excess weight among overweight children, National High Blood Pressure Education Program (2004) suggested that the emphasis should be laid on the management of health conditions rather than on the overweight child, meaning weight management should be a health goal rather than an aesthetic goal. Physical activity and diet modification is an important strategy to losing weight; however, health professionals, both physicians and nurses have a role to perform in this strategy.

Epstein et.al (2010) suggested that nurses should screen all school children for hypertension, perform nutritional assessment at schools, and participate in health education programs. King et.al (2010) also pointed out nurses have a responsibility to screen for BP. School nurses can also advocate for policies that improves the health of children such as advocating for the recommendation of physical activities and health education in the school curriculum, advocate for development of recreational facilities in the rural area.

Praveen, Roy and Prabhakaran (2012) identified regular physical activity, diet modification like limiting the use of sugar-sweetened beverages, increasing consumption of fruits and vegetables, low fat diet, low cholesterol diet and a strict maintenance of calorie requirement as means of promoting health. The role of physicians in this strategy is reviewing the total energy

expenditure which consist of metabolic rate, the thermic effect of food and the energy expended during planned physical activity, reviewing the diet of the child by encouraging children to consume more of fruits and vegetables rather than high energy fatty snacks, becoming an advocate for daily physical education throughout 13 years of school attendance, and advocating for a change of lifestyle by putting pressure on local authorities to build sidewalks and cycle path in order to encourage children to walk and cycle rather than using the school buses (Shephard 2004).

Chapter 7

Critical review

In this chapter, the study will be critically reviewed by examining the purpose of the study, the credibility of the study, the data collection method and analyses. The subject of this research is health promotion for overweight children between the ages of 7 to 12, the study sought to investigate the consequences of overweight and to find ways in which the well-being of overweight children can be promoted through the action and participations of health professionals especially nurses.

From the results of this study it is apparent that many of the authors of the literatures used, share similar opinions on the consequences of being an overweight child. This further shows that this study has an element of validity in content analysis. However, most of the literatures have failed to provide substantial or possible solutions to promoting psychological health of the overweight child. It is therefore important that further studies can be done to explore psychological approach to health promotion for overweight children. On the part of the researcher, doing a content analysis on previous literatures restricted the researcher to scientific papers which can be viewed as scholars' opinions about health promotion for overweight children. Therefore, it will be of great value to obtain extensive field work in order to capture more pragmatic measure regarding problems facing health promotion for overweight children so as to enable practical and empirical solutions in the future research.

The theoretical framework used was Nola Pender's health promotion model (HPM). The researcher was interested in finding out how Pender's HPM theory can influence health promotion interventions for overweight children by nurses. As already mentioned in the result of the study, nurses can promote health for overweight children by becoming an advocate for policies which can help to develop healthy behaviors that improve the well-being of overweight children. And also by being a role model of health promoting lifestyle.

Content analysis was used to analyze the data. It is most suitable way to analyze the materials gathered for the study because the study is based on a literature review. Important materials for this study were gathered from databases such EBSCO, CINAHL and Google scholars. The gathered information was analyzed deductively because the study was based on previous knowledge from theories, models and literature review.

In addition, Polit and Beck (2012) mentioned that researchers ought to address the issues of credibility, validity, reliability, transferability and dependability in the presentation of the research results to establish its authenticity. Chapters 4 already addressed the issue regarding that.

This research topic is part of a 5 year project ordered from Korsholm commune. The project is about welfare diseases in Finland, how they are prevented, treated and cured. In relation to this project, the result of this study can be applied in communities, and health centers. This study can also be used to improve nurses' knowledge on health promotion for overweight children and also enlighten nurses on their role in fighting against childhood overweight.

Chapter 8

Discussions

In this chapter, the researcher will review the aim and research questions of the study, the method of the study, the theoretical framework, and the results. These will assess whether the aim of the study was accomplished.

The main objective of this study was to investigate health promotion for overweight children as well as highlighting the consequences of overweight. The researcher aspired to point out to nurses their unique role to promoting health for overweight children. Surprisingly, the result of the study showed that there were few correlations between the roles of the nurse and health promotion for overweight children. The result showed that health promotion can be addressed from psychological, societal and medical perspectives, but it did not show the specific roles of the nurse in these approaches. These results therefore ascertain that health promotion for overweight children is not limited to nursing profession, but it involves the joint effort of the society at large. However, the two research questions that form the foundation of this study are believed to have been answered (see chapter 6). Hence, overweight in children leads to psychological problems such as low self-esteem, low academic performance, and depression etc. Another important issue about overweight in children is that it leads to societal problems such as stigmatization, social isolation, and bullying behaviors. Lastly, overweight in children also leads to medical conditions such as diabetes, CVDs, hypertension, and sleep disorders. Likewise the roles of the nurse in health promotion for overweight children are diverse as seen from the result of the study; an intervention that leads to developing a healthy behavior is most essential in this study.

According to the literatures, health promotion can only be successful if the goal is to develop a healthy behavior rather than to lose weight, meaning health promotion promotes physical health, mental health and social well-being, but achieving these three involves two active participants: the health promoter which can be a nurse, a physician, a politician, a nutritionist, a psychologist, a sports instructor etc., and the overweight or obese child. However, this study aspires to present to the nurse his/her unique role to health promotion for overweight children, from the literatures obtained in this study, it was observed that nurses are mostly saddled with medical responsibilities such as checking weight status of children, checking BMI status, screening for diseases such as HBP, and CVD's which are very important, but all of these responsibilities have

only succeeded in identifying the risk. In Pender's health promotion model, the nurse's role in health promotion includes been a role model for health promoting lifestyle, advocating for community health facilities that facilitates health promotion and, providing health education (Pender, Murdaugh and Parsons 2006).

Pender's HPM identified activity-related affect as one of the motivational variables that promotes healthy behaviors. This describes positive and negative subjective feelings that takes place before, during and after behavior that arises based on the effects of actual behavior, influencing self-efficacy meaning that the higher positive subjective feelings the higher the feelings of efficacy (Pender in Alligood and Marriner-Tomey 2010). The results of this study showed that positive contribution and interventions towards promoting health for overweight children promoted positive feelings of self-esteem, self-perception, self-motivation, and positive behavior towards eating pattern and physical exercise. While a negative subjective feelings towards physical activity and eating pattern led to low self-esteem, low academic performance, and stigmatization, CVDs, diabetes and sleep disorders.

The researcher used qualitative research methodology to study and gather relevant information, and adopted content analysis to analyze and present the result of the study. Consequently, the researcher succeeded in using the deductive content analysis approach, in the sense that the problem was carried out based on previous studies, using literature reviews. However, during the study, it was observed that health promotions for overweight children is not a one way approach of exercise and eating pattern but involves the participation of other fields such as psychology to address the aspect of low self-esteem, the society which includes the school, food industries, local authorities to address the aspect of stigmatization, social isolation and the medical field to address the aspect of medical conditions. These showed that the study moved from a general knowledge to a more specific knowledge. It became apparent that although the study sought to educate nurses on their roles to health promotion for children, their roles will be futile without the cooperation of the other fields. In any case, the nurse has to carry on with her intervention programs, as it is his/her obligation to promote health.

According to the ICN Code of Ethics for Nurses, one of the obligations of nurses that outline the standard of ethical conduct is the nurse and people. This study presented to nurses an opportunity to serve the overweight children within the community through advocating for healthy policies concerning physical activities in schools and the community, availability of healthy foods such as fruits, low fat foods in schools and the community at affordable cost and through health

education. The role of nurses, particularly registered nurses is of utmost importance because nurses make up the largest group in the health-care profession and because nurses are closer to the clients at all level of the society (Pender, Murdaugh and Parsons 2006).

Pender's theory describes health promotion as behavior motivated and identified three motivational variables toward developing a health promoting behavior. Developing healthy behavior as already discussed in the result of the study, means approaching the problem from psychological, societal and medical approaches. Through these approaches the overweight child's orientation on self-perception is changed from a negative perception to a positive perception, the child is now able to recognize the need to develop a healthy behavior and is able to involve actively through the support of the community, health education, and self-confidence programs from health personnel (nurses).

Lastly, Pender's health promotion model articulated that to be a successful health promoter, nurses ought to serve as role models of their health promoting lifestyle programs (Pender, Murdaugh and Parsons 2006). In the researcher's opinion, this aspect needs to be taken seriously as it can serve as a set back towards health promotion at large in a society in which nurses do not participate or engage in health promoting lifestyle programs that can help enhance such health promotion.

Chapter 9

Conclusion

Overweight and obesity are ranges of weight figures that are larger than figures for normal weight people. Overweight in children has become a global concern affecting children in all parts of the world irrespective of race, ethnicity or social background. The WHO (2010) speculated that by 2010 the figure of overweight children under the age of 5 all over the world would be 43 million. Cornette (2008) also reiterated that if overweight in children is not addressed it could become the leading cause of death, surpassing tobacco. With these frightful figures and speculations, efforts to combat overweight in children are ongoing in the WHO, CDC, through researches, environmental modifications, community developments, and physical health education.

The study has further reiterated the knowledge of the psychological and social consequences of overweight in children, these consequences have overtime been ignored, but in spite of the awareness of these consequences, not many studies have been carried out to investigate health promotion interventions toward the psychological problems of being an overweight child.

This study has proffered suggestions or better still reminded the nurse, who happens to be in constant contact with clients. The role of the nurse in this problem cannot be underestimated. However, nurses themselves should strive to be role models to overweight children, through continuing education and further research on the areas that are still lacking understanding like the area of the psychological approach to promoting health for overweight children. The researcher would suggest that further studies be carried out concerning the promoting of psychological health of the overweight child.

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