Parental perception of pediatric obesity

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PARENTAL PERCEPTION OF
PEDIATRIC OBESITY

By

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Bachelor of Science in Nursing
University of Nevada, Las Vegas
1999

A thesis in partial fulfillment
of the requirements for the

Masters of Science Degree in Nursing
School of Nursing
Division of Health Sciences

Graduate College
University of Nevada, Las Vegas
May 2006
The Thesis prepared by
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Entitled
Parental Perception of Pediatric Obesity

is approved in partial fulfillment of the requirements for the degree of

Masters of Science Degree in Nursing

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ABSTRACT

Parental Perception of Pediatric Obesity

by

Mary Hackie

Dr. Cheryl Bowles, Thesis Committee Chair
Professor of Nursing
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Pediatric obesity is a growing problem with potential for lifelong physical, emotional, and social implications. Professional nurses have a moral imperative to be concerned about pediatric obesity. Because nursing theorist Barnard considers parent and child to be an interactive system, it is essential that nurses begin by assessing the parental perception of their child’s weight. Only after a parent recognizes their obese child’s weight as a problem can nursing successfully intervene and assist the child.

The purpose of this replication study was to assess parental perception of their obese 2-5 year old children in Southern Nevada. The sample consisted of 39 parents of 2-5 year old obese children enrolled in two Southern Nevada WIC programs. When parent’s perceptions of their child’s obesity were assessed using a questionnaire developed by Myers & Vargas (2000) it was found that 61.5% of these parents were not aware that their child was obese. In 2000 the same questionnaire had been administered to a similar population in Virginia, that study found that 35% of parents did not believe their obese child was obese.
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ACKNOWLEDGMENTS

When exceptional teaching ability coalesces with genuine concern for students the synergistic result is a leader with extraordinary influence. A series of serendipitous events resulted in my having the honor of working with such a leader, Dr. Cheryl Bowles my committee chair. The official cheerleader of this committee has been Dr. Mary Bondmass whose mantra “just get it done!” hangs above my desk. Although some refer to Dr. Susan Meacham as my “outside committee member,” she was very much “in the loop” and her professional connections have been invaluable. Dr. Pat Alperts’ attention to detail and clinical expertise enhanced my expectations for myself.

Staff at the Cambridge WIC Program has been enthusiastically supportive, including Lilliam Shell and Kristine Cortez. Thank you Isala Arias for getting excited every time a “juicy” child walked into your lab! I also appreciate Anne Lawrence’s grammatical expertise. Dr. Cross you are wonderful. And thanks Mom for correcting my spelling when the spellchecker had no idea what I was trying to say.

Every graduate student should be fortunate enough to have a loving husband like mine. Ed never complained when the depth of our laundry pile correlated directly with the amount of academic responsibility I had each week. He was consistently there to hold my hand. Thanks everyone!
CHAPTER 1

INTRODUCTION

Obesity is a global epidemic (WHO, 1998) that affects as many as 27% of children worldwide (Eliakim, et al., 2002). Childhood obesity is "perhaps the biggest health problem facing America" (President Bill Clinton, 2005). Adverse effects of obesity include the potential for lifelong physical and emotional health problems as well as diminished quality of life (Bungum, Satterwhite, Jackson, & Morrow, 2003). Successful intervention for overweight children requires that parents of these children perceive their children’s weight as a problem (Jeffery, Voss, Metcalf, Alba, & Wilkin, 2004). Parents must be an active part of the solution to the problem of childhood obesity. Studies have shown that parents frequently underestimate the significance of excess weight to their children’s health (Etelson, Brand, Patrick, & Shirali, 2003; Genovesi, et al., 2005). Nurse theorist Bernard views “the parent and child as an interactive system” (Tomey & Alligood, 2002, p. 486). If nursing is to have a positive influence on the escalating health problem of childhood obesity, we need to begin by assessing parental perception of obesity as part of an interactive parent-child system.
Problem Statement

Obesity has many negative effects on children. Obese girls sometimes develop breasts and experience menarche as early as age seven. All obese children are subject to a higher prevalence of hypertension, type 2 diabetes mellitus (T2DM), and elevated cholesterol than normal weight children of equivalent age (Ruxton, 2004). The social stigma associated with obesity can result in long term psychological implications (Janssen, Craig, Boyce, & Pickett, 2004). A cross-sectional study of mothers of preschool children at a Cincinnati, Ohio Women's, Infants, Children's (WIC) Clinic found that while 95% of obese mothers realized that they themselves were overweight, 79% of these mothers failed to realize that their obese child was overweight (Baughcum, Chamberlin, Deeks, Powers, & Whitaker, 2000). Another study by Jain, Chamberlin, Carter, Powers, & Whitaker, (2001) found that mothers and health care professionals have different ideas about what constitutes overweight. Mothers were likely to consider being teased about weight or developing limitations in physical activity to be more important indicators of their child being overweight than standard growth charts utilized by health care professionals (Jain, et al., 2001). These and other studies (Goodman, Hinded, & Khandelwal, 2002) have demonstrated incongruence between parental perception of overweight children and the medical community's definition of overweight children. This incongruence poses a problem for the effective treatment and prevention of childhood obesity. In order for nurses to positively impact this pediatric obesity epidemic, we must first assess parental perception of the problem. Nursing consideration of parental
perception is essential because we know that parents must recognize that their child has a problem before they will act to alleviate that problem (Baughcum, Chamberlin, Deeks, Powers, & Whitaker, 2000).

Background and Significance to Nursing

Nursing is frequently defined as “the diagnosis and treatment of human responses to health problems” (Barnard, 1981). Currently, parent’s response to the problem of pediatric obesity often includes failure to recognize obesity as a problem in their offspring. Implications of parental misconception of this problem include delayed diagnosis of associated health problems, failure to accept related nursing intervention, and continued parental role modeling of poor eating and exercise habits. When parents have appropriate perceptions of their children’s obesity they are more likely to contribute to a solution (Golan, Weizman, Apter, & Fainaru, 1998).

Parents and children are widely considered by nurses to be an interactive system (Tomey & Allogood, 2002), therefore nursing should approach this familial problem by first assessing parental perception of their children’s weight. If assessment reveals parental awareness and acceptance of the problem, then the nurse may move towards the second stage of the nursing process: planning for intervention. If assessment reveals that parents are not aware of the problem presented by their children’s weight, then the nurse will need to continue this assessment phase of the nursing process with focus on determining the reasons for the parents’ lack of awareness and taking steps to increase their awareness.
Only after parents accept that their child's weight is a problem will family centered nursing interventions in this area be likely to succeed.

**Purpose of Study**

The purpose of this replication study was to assess parental perception of their pre-school child's obesity. Myers & Vargas, (2000) surveyed 200 parents of obese 2-5 year old children to determine their perception of their child’s weight. These primarily Hispanic study participants were simultaneously enrolled in the federally-funded WIC Program in Arlington, Virginia. This current study administered the Myers & Vargas survey instrument to parents of overweight children at a WIC program serving primarily Hispanic families in an urban area of Southern Nevada. The parents’ perceptions were compared with selected demographic variables of the sample. Findings of this study were also compared to findings by Myers & Vargas to identify similarities and differences.
CHAPTER 2

REVIEW OF RELATED LITERATURE

Seventy-six articles and books from health science disciplines spanning the years 1997 - 2005 were reviewed. The literature covering the extent of pediatric obesity is discussed as well as literature concerning the physiological, psychosocial, and economic consequences of obesity on children. Published studies on parental perception of childhood obesity were also reviewed. Due to limited previous studies of obesity specific to pre-school age children, this literature review encompasses children from birth through 18 years with specific age groups noted, when available.

The Pediatric Obesity Epidemic

Since the 1970's, the prevalence of overweight children has increased so dramatically that many of today's children are at risk for a shorter life expectancy than that of their parents (Okie, 2005). What exactly is meant by overweight? The WIC definition of "overweight" uses height and weight to compute body mass index (BMI), a single number expressed in weight/height² (kg/m²). This BMI is than compared with the Center for Disease Controls' (CDC) year 2000 BMI-for-age-growth charts which are displayed in Appendix A (Marta Kealey, RD WIC, personal correspondence, September 22nd, 2005). "Children with BMI values at
or above the 95th percentile of the sex-specific BMI growth charts are categorized as "overweight" (CDC, 2005) by the CDC, by WIC, and by this study.

The prevalence of overweight among children 2 through 5 years old residing in the United States was 7.2% in 1988-1994; it increased to 10.4% in 1999-2000. Among 6 through 11 year olds, overweight increased from 11.3% to 15.3% in the same time span. In 12 through 19 year olds, the prevalence of overweight children had been 10.5% in 1988-1994 and is now at least 15.5%. It is thought that the problem is worse among non-Hispanic black and Mexican-American adolescents than it is among adolescents of other ethnicities (Ogden, Flegal, Carroll, & Johnson, 2002).

For adults 20 years or older, the National Heart, Lung, and Blood Institute as well as the World Health Organization differentiate between the terms “overweight” and “obese,” with overweight being a BMI of 25-30 and obese a BMI >30 (Ogden, Flegal, Carroll, & Johnson, 2002). In reference to children younger than 20 years, current literature frequently utilizes “overweight” and “obese” interchangeably. "Obesity" is usually indicative of a more serious problem than “overweight” but neither is quantified in the pediatric literature. For this literature review, use of these terms will be consistent with their use by the respective researchers being discussed.

According to the CDC National Center for Health Statistics, the prevalence of pediatric obesity in Nevada and in Las Vegas is not known (2005). This lack of data was confirmed by Dr. Audrey McCool, (personal communication, September 23rd, 2004) Professor of Food & Beverage at University of Nevada, Las Vegas.
who said “it is appalling but true, we have no idea of the extent of pediatric obesity here in Southern Nevada.”

A series of seventy one World Health Organization surveys found that obesity does not appear to be a problem among pre-school children in Asia and Sub-Saharan Africa. However, several countries in Latin America, the Caribbean, the Middle East and Central Eastern Europe have levels of pediatric obesity as high as those found in the United States (Martorell, Khan, Hughes, & Grummer-Strawn, 2000).

Consequences of Pediatric Obesity

Physiological Consequences

While every aspect of the young human body is affected by this problem, most physiological studies of pediatric obesity thus far have focused on pulmonary, cardiovascular, endocrine, and orthopedic consequences. Numerous studies report that the pulmonary consequences of obesity are primarily asthma and sleep apnea. A positive correlation between asthma and obesity has been documented by at least nine research studies since 2000 (Belamarich, et al., 2000; Bibi, et al., 2004; Blandon, del Rio, Berber, & Sienra, 2004; Chinn, 2003; Figueroa-Muñoz, Chinn, & Rona, 2001; Ford, 2005; Gilliland, et al., 2003; Gold, Damokosh, Dockery & Berkey, 2003; Williams, 2002). Two of these studies were metanalyses (Chinn, 2003 and Ford, 2005) encompassing a total of 171 references published since 1984, the majority of these references were research studies. Both metanalyses confirmed the association between asthma and
obesity but concluded that there is no simple, agreed upon explanation for this
association. The remaining seven studies reported original, quantitative research
utilizing various methodologies and a combined sample of over 35,000 children
in four countries, all of which concluded a significant correlation between asthma
and obesity. An additional study by von Kries, Hermann, Grunert, & von Mutius,
(1997) examined over 9,000 German children and found a positive correlation
between asthma and obesity in girls but not in boys. Brenner, Kelly, Wenger,
(n=747) in the United States and concluded that obesity was not associated with
asthma. Despite extensive research in this area there are conflicting reports on
the relationship between asthma and obesity.

Sleep apnea is another pulmonary consequence of pediatric obesity that
has been extensively researched. A positive correlation between sleep apnea
and obesity has been documented by at least five studies since 2001 (Corbo, et
al. 2001; Gozal, Wang, & Pope, 2001; Ng, Lam, Kwok, & Chow, 2004; Padman,
Hyde, Foster, & Borkowski, 2002; Sulit, Storfer-Isser, Rosen, Kirchner, &
Redline, 2005). An additional study of 1,008 children in Thailand did not confirm
this, however these researchers attributed this unexpected finding to the fact that
they believed their sample was not as obese as samples were reported to have
been in previous studies (Anuntaseree, Rookkapan, Kuasirikul, & Thongsuksai,
2001). The correlation between sleep apnea and obesity is significant because
sleep apnea is associated with failure to thrive, academic difficulties, and death
(Padman, 2002).
Cardiovascular physiological consequences of pediatric obesity are frequently insidious and occult relative to their pulmonary counterparts. Two studies with similar methodologies examined the correlation between blood pressure (BP) and BMI. The first looked at (n=155) Native American youth living on reservations (Smith & Rinderknecht, 2003). The second looked at (n=3589) Canadian school children living in Quebec (Paradis, et al., 2004). Both studies found BP to have a consistently positive correlation with BMI. An ongoing longitudinal study in Finland (initial n=2229) initiated in 1980 continues to demonstrate a relationship between cardiovascular risk factors such as hypertension in childhood and common carotid artery thickening in adulthood, an accepted marker of atherosclerosis (Raitakari et al., 2003). A prospective study of normotensive, “severely obese” children in France (n=48) found that these children whose duration of obesity ranged from 2.7 to 15.2 years (median 9.1) already have common carotid artery stiffness (Tounian, 2001). The Bogalusa Heart Study sample which consisted of over nine thousand 5 to 17-year-olds included seven cross-sectional studies done between 1973 and 1994 found that obese children were 2.4 times more likely than normal weight children to have elevated total cholesterol (Freedman, Dietz, Srinivasan, & Berenson, 1999).

Two endocrine problems are commonly associated with obesity in the pediatric population: early sexual maturation in girls and type 2 diabetes mellitus (T2DM) in girls and boys. Since 2001 at least three studies carried out on two continents (total n=24,586) have demonstrated a positive correlation between obesity and early sexual maturation in girls (Wang, 2002; Kaplowitz, Slora,
One of these studies (Wang, 2002) also concluded that late sexual maturation and obesity are correlated in boys.

Prior to the obesity epidemic, T2DM was so uncommon in children that it was usually referred to as “adult onset” diabetes (Lewis, Heitkemper, & Dirksen; 2004, Fagot-Campagna et al., 2000). While the exact prevalence of T2DM in United States children is unknown (American Diabetes Association, 2006), there is evidence that the increasing number of overweight children closely parallels the rise in pediatric T2DM (Hannon, Rao, & Arslanian, 2005). Although primarily considered an endocrine problem, this disease adversely affects the cardiovascular system and eventually the entire body and lifestyle of afflicted children. Young people with T2DM experience the microvascular and macrovascular complications of this disease earlier than those with disease onset at a later age. These complications include heart disease, renal insufficiency, and retinopathy leading to blindness (Hannon, Rao, & Arslanian, 2005).

The final physiological consequence of pediatric obesity addressed in current literature with some frequency is orthopedic problems. In 2002 Goulding, Taylor, Jones, Manning, & Williams reported that “during growth, overweight and obese children do not increase their spinal bone mineral content to fully compensate for their excess weight.” This is significant because low back pain is common among obese children (Harreby, et al. 1999) and may contribute to a lack of exercise. Nagasaki, Kikuchi, Hiura, & Uchiyama (2004) found that the
problem escalates in obese adolescents because their gain in bone mass density during puberty is much lower than in normal weight adolescents. Additional researchers have addressed the orthopedic problems of pediatric obesity including Choung & Yang, 2003; and Klein, et al., 2005.

**Psychosocial Consequences**

The most widespread consequences of childhood obesity result from those problems that have psychosocial implications (Dietz, 1998). Such problems include depression, low self-esteem, unrealistic expectations by others, and bullying. Several researchers explored the correlation between obesity and depression; their findings are inconsistent (Dong, Sanchez, & Price, 2004). For example, two studies (Erermis, et al., 2003; and Swallen, Reither, Haas, & Meier, 2005) concluded that depression is more common in obese than in non-obese adolescents while Engström, Silfverdal, & Aman, (1999) found that the prevalence of depression is the same in obese adolescents as it is in non-obese adolescents. Goodman & Whitaker (2002) express uncertainty as to whether depression causes obesity or obesity causes depression. They did a prospective cohort study of 9,374 adolescents and concluded that depressed, normal weight adolescents are at increased risk for developing obesity. This conclusion was replicated by Lumeng, Gannon, Cabral, Frank, & Zuckerman (2003) in a longitudinal survey of 775 mother-child pairs.

Literature concerned with the correlation between obesity and self-esteem also reveals some inconsistencies but the majority of these studies found a negative correlation between obesity and self-esteem. Davison & Birch (2001)
administered individual questionnaires to 5 year old girls with their parents and found that as early as age 5 lower self-esteem is noted among girls with higher weight status. In 2000 Richard Strauss reported a longitudinal survey of 1,520 children and concluded that obese Hispanic and White children had lower levels of self-esteem than normal weight peers by early adolescence with the problem more significant in girls than in boys. Swallen, Reither, Haas, & Meier (2005) also reported a correlation between low self-esteem and excess weight in early adolescents but did not find this in older adolescents. A study of African-American children found that self-esteem but not global self-worth is lower in obese children with obese girls scoring lower than obese boys when compared to normal weight African-American children (Young-Hyman, Schlundt, Herman-Wenderoth, & Bozylinski, 2003).

Obese children tend to be taller than their normal weight peers (Goulding, Taylor, Jones, Manning, & Williams, 2002) and therefore are frequently assumed to have a higher level of maturity than that which is expected for their chronological age. This inappropriate expectation may have an adverse effect on the socialization of these obese children (Dietz, 1998). Further research is needed in this area.

Bullying and weight-based teasing by peers and family members is a widespread consequence of obesity that exists across racial and ethnic groups (Eisenberg, Neumark-Sztainer, & Story, 2003). In 2004 Janssen, Craig, Boyce & Pickett examined associations between bullying behaviors and obesity in 5,749 Canadian school-age children and found that with the exception of 15 to 16 year
old boys obese youth were more likely to be victims of aggression than were normal weight youth. A researcher in rural Nevada (Lesperance, 2003) interviewed an obese adolescent boy as part of her phenomenological study on bullying. This boy reported "they think you know since we’re big kids that we’re like really tough...No one hangs out with you that much cuz they think that you might beat them up or something".

**Economic Consequences**

Significant economic consequences of obesity have thus far been demonstrated only in the adult population. Because as many as 77% of obese children become obese adults (Freedman, Kahn, Dietz, Srinivasan, & Berenson, 2001) obesity in children is of significant economic concern. It is known that obese adults are more likely to have higher rates of employee absenteeism (Tucker & Friedman, 1998; Bungum, Satterwhite, Jackson, & Morrow, 2003) and higher health care expenditures (Finkelstein, Feibelkorn & Wang, 2003) than their non-obese counterparts. Employee absenteeism was examined in two cross-sectional design studies (Tucker & Friedman; Bungum et al.) with a total n=11,331 and both studies concluded that excessive BMI is a significant predictor of higher job absenteeism.

Health care expenditures associated with obesity were examined by Finkelstein, Fiebelkorn & Wang (2003). These researchers applied a regression framework to nationally representative data and concluded that obesity-attributable medical spending in the United States accounted for 5.3% of total medical costs in 1998. Similar results were obtained in other studies by Daviglus
et al., 2004 and Wolf, 2002. Andreyeva, Strum, & Ringel (2004) also applied a regression framework to nationally representative data but took this analysis a step further and concluded that there are large differences in obesity-related costs by degree of obesity with higher BMI and higher cost correlating directly. Wee, et al. (2005) confirmed this correlation between increased BMI and increased costs but found this trend more common among Whites than among Blacks. They concluded that relatively fewer healthcare dollars are spent on the higher BMI Black population, possibly because Black adults may not receive care comparable to that received by White adults.

In at least six countries outside the United States researchers have examined the economic burden of obesity on their respective populations: Australia (Reidpath, Crawford, Tilgner, & Gibbons, 2002), Canada (Birmingham, et al., 1999), France (Detournay, et al., 2000), Japan (Kuriyama, et al., 2002), New Zealand (Swinburn, et al., 1997), and Switzerland (Schmid, Schneider, Golay, & Keller, 2004). In all six of these countries, a direct correlation was found between increased BMI and increased use of medical services. While numerical estimates are admittedly crude (Swinburn, et al.) and methodologies inconsistent, overall these six studies estimate that obesity costs represent between 0.7% and 3.5% of total national health care expenditures with France (Detournay, et al.) being the lowest and Switzerland (Schmid, et al) the highest.

Parental Perception of Pediatric Obesity

Myers & Vargas (2000) surveyed 200 parents of primarily Hispanic obese
children participating in the WIC program in Arlington, Virginia. They found that 35.5% of these parents failed to recognize obesity in their obese 2 to 5 year old children. They also concluded that “individual (parental) perceptions should be an integral part of the assessment and intervention process” (Myers & Vargas, p. 6).

At least three other studies have looked at parental perception of children’s obesity in the United States. Baughcum, et al., (2000) did a cross-sectional survey on a sample of 622 mothers recruited from both a WIC clinic and a private pediatrician’s office and concluded that 79% of these mothers failed to perceive their overweight children as overweight. Etelson, Brand, Patrick & Shirali (2003) distributed an anonymous questionnaire at a private pediatrician’s office where 79% of the visits were not reimbursed by Medicaid and found that 89.5% of 83 parents of overweight children failed to perceive their children’s weight accurately. A third study utilized data collected by the CDC’s National Center for Health Statistics during home interviews (Maynard, Galuska, Blanck & Serdula, 2003). This sample included 5500 children and concluded that nearly one third of mothers perceive overweight children as weighing less than their actual measured weight. Although each of these three studies utilized the same CDC definitions for overweight and obese (see “Definitions”), the reader is cautioned that each study utilized a differing methodology and unique definition of perception. For example Baughcum, et al. used an interviewer administered questionnaire with responses collapsed into two choices, one choice was statistically significant for appropriately perceived obesity and the other was not. Etelson, et al. used a participant administered visual analog scale which offered
4 choices, 2 of which were statistically significant choices. Maynard's group used interviewers who asked "is your child overweight, underweight, or about the right weight?" with two of these three answers significant for an inaccurate parental perception of obesity.

Additional studies have been done outside the United States: UK (Jeffery, Voss, Metcalf, Alba & Wilkin, 2004), Australia (Wake, Salmon, Waters, Wright, & Hesketh 2001), and Italy (Genovesi, et al., 2005) but due to differing national standards for obesity and widely varying methodologies comparisons between these studies and those done inside the US is more difficult.

Several researchers compared parental perception of obesity in daughters with parental perception of obesity in sons. Three studies (Maynard, et al., 2003, Jeffery, et al., 2004, Boutelle, Fulkerson, Neumark-Sztainer, & Story, 2004) found parents were more likely to recognize the problem in their daughters than in their sons while two studies (Baughcum, et al. and Wake, et al.) found parents were equally likely to recognize obesity in their daughters as in their sons. In addition, two researchers found a positive correlation between accurate parental perception of obesity and parental level of education (Baughcum, et al., 2000, Jain, et al., 2001) while Wake, et al., (2002) found no correlation between parental perception of obesity and parental level of education.

Chapter Summary

Since the 1970's the prevalence of obesity in children has been increasing in the United States and many other countries at an unprecedented rate (Okie,
Physiological consequences of this global epidemic (WHO, 1998) include pulmonary problems such as asthma and sleep apnea. Cardiovascular problems including T2DM and hypertension, two chronic diseases formally seen primarily in the adult population are on the rise in children due to the increase in pediatric obesity (Lewis, et al., 2004 and Fagot-Campagna et al., 2000). Additional physiological consequences of this epidemic include early sexual maturation in girls (Wang, 2002; Kaplowitz, et al., 2001; He And, 2001) and orthopedic problems (Choung & Yang, 2003).

Psychosocial consequences of childhood obesity include depression, low self-esteem, unrealistic expectations by others, and bullying. It has been postulated that the most devastating consequences of pediatric obesity are those with psychosocial consequences (Dietz, 1998).

Although economic consequences of obesity have thus far only been demonstrated in the adult population, up to 77% of obese children become obese adults (Freedman, 2001) therefore obese children are of significant economic concern. It is known that obese adults have higher rates of employee absenteeism than normal weight adults (Tucker, & Friedman, 1998, Bungum, et al., 2003). Also, it is estimated that obesity-attributable medical spending in the United States accounted for 5.3% of total medical costs in 1998 (Finkelstine, et al., 2003).

At least 4 studies in the United States have examined parental perception of pediatric obesity. While the diverse variety of definitions and methodologies selected by these researchers precluded a comparison of their findings, all four
found that some parents of obese children failed to correctly perceive their children as obese (Myers & Vargas, 2000; Baughcum, et al., 2000; Etelson, et al., 2003; and Maynard, et al. 2003). This study examined WIC parent’s perceptions of their children’s obesity in Southern Nevada and also found that some parents of obese children failed to correctly perceive their children as obese.
CHAPTER 3

CONCEPTUAL FRAMEWORK

The theoretical basis of this study is presented in this chapter. Research questions, definitions, and study assumptions based upon this theory are also described.

Theory of Parent/Child as an Interactive System

The theoretical framework selected for this study was Kathryn E. Barnard's Child Health Assessment Interaction Theory. Considered to be a middle-range nursing theory (Tomey & Alligood, 2002), Dr. Barnard's research focuses on the caregiver-child relationship. Her most noted work is the development of the Nursing Child Assessment Satellite Training (NCAST) Program. First taught in 1971 and now required by many State Departments of Health for staff training, this multidisciplinary program teaches a system for assessing behaviors of infants and parents during the routine interactions of feeding and teaching (Institute of Medicine, 2005).

The Child Health Assessment Interaction Theory proposes that the individual characteristics of each person who contributes to the interaction will ultimately influence the parent-infant system (Tomey & Alligood, 2002). The
graphic depiction of this theory in Appendix B shows three overlapping circles: the smallest represents the child, the medium circle represents the caregiver, and the largest represents the shared environment. All three circles overlap in the center of this diagram resulting in a common area emphasizing the interaction aspect of Barnard's theory. A major proposition of her theory is that this interaction is influenced by both the caregiver and the child. A caregiver who is sensitive to the child's cues will be able to identify problems early, intervene appropriately, and thereby promote the child's wellbeing.

Kathryn Barnard's Theory was chosen for the framework of this study because both her model and this study recognize the importance of parents being observant and responsive in interactions with their children. Barnard has proposed 10 theoretical assertions. Two of these assertions were selected for discussion here because they best support the assumptions of this study, which are presented on page 24.

Barnard's Theoretical Assertion #1

"In child health assessment, the ultimate goal is to identify problems at a point before they develop and when intervention would be most effective" (Tomey & Alligood, 2002). Consistent with this assertion is a recent metanalysis of 24 studies published in the British Medical Journal that found children who gained weight more rapidly in the first two years of life were at higher risk of being obese in later life and that early intervention might prevent this (Baird, Fisher, Lucas, Kleijnen, Roberts, & Law 2005). A prerequisite to the early intervention suggested by both Barnard and by recent health science literature is
recognition of pediatric obesity by parents. Successful intervention requires that parents of overweight children perceive their children’s weight as a problem (Jeffery, Voss, Metcalf, Alba, & Wilkin, 2004). Barnard’s first theoretical assertion is important to this study because without early recognition and intervention overweight children frequently become overweight adults (Freedamn, Khan, Dietz, Srinivasan, & Berenson, 2001).

Barnard’s Theoretical Assertion #5

“Through interaction, caregivers and children modify each other’s behaviors. That is, the caregiver’s behavior influences the child and, in turn, the child influences the caregiver so that both are changed” (Tomey & Alligood, 2002). Consistent with this assertion is data that a child with one obese parent has more than twice the risk of becoming obese than does a child with normal weight parents (Whitaker, Wright, Pepe, Seidel, & Deitz; 1997). While there is considerable debate about what role genetics plays in this familial commonality, it is increasingly clear that lifestyle habits leading to parental obesity have a more direct influence on offspring weight status than genetics (Hill & Peters, 1998). Barnard’s fifth theoretical assertion is important to this study because nursing intervention can potentially be influential in diminishing this vicious cycle of generational obesity.
Research Questions

Based on Kathryn Barnard's Theory and the objectives listed by Myers & Vargas (2000) in their study, the present study will attempt to answer the following questions:

1. What are the similarities and differences between parents in Southern Nevada and parents in Arlington, Virginia in the way they perceive their overweight 2-5 year old children who are WIC recipients?

2. Do parents of 2-5 year old obese children in a WIC Program in Southern Nevada believe their child is overweight?

3. Do parents of 2-5 year old obese children in a WIC Program in Southern Nevada believe that childhood obesity presents a risk to a child's physical or emotional health?

4. Is there a relationship between age, educational level, ethnicity of parents, and their perception of their 2-5 year old children being overweight?

5. What steps, if any, have parents of overweight 2-5 year old children in a Southern Nevada WIC Program taken to slow their child's weight gain?

6. If parents of overweight 2-5 year old children in a Southern Nevada WIC Program have taken steps to control what their child eats, what problems have made these steps difficult?

Definitions

Terms that will be explained are introduced in quotations:
It is common for parents to conceptually define their children as being "overweight" only after they observe their children being teased about weight or developing limitations in physical activity because of their size (Jain, et al., 2001). From an operational standpoint, the WIC definition of overweight will be utilized for this study. WIC uses height and weight to compute body mass index (BMI), a single number expressed in weight/height² (kg/m²). This BMI is then compared with the CDC's year 2000 BMI-for-age-growth charts (Marta Kealey, personal correspondence September 22nd, 2005) which are displayed in Appendix A. "Children with BMI values at or above the 95th percentile of the sex-specific BMI growth charts are categorized as overweight" (CDC, 2005) by the CDC, by WIC, and by this study.

"Parent" is conceptually defined as one who gives life to or brings up offspring (Merriam-Webster, 2000). Parent will be defined operationally as the primary caregiver, whether or not this person is genetically related to the child. This primary caregiver may be a parent, legal guardian, or foster parent, but they must have been primarily responsible for the child's upbringing for a minimum of two years immediately preceding study participation. The terms "parent" and "study participant" will be used interchangeably.

"Child" is conceptually defined as a person who has not come of age (Merriam-Webster, 2000). From an operational perspective the term 'child' will be limited to an individual between their second birthday and their fifth birthday, inclusive. While it is recognized that in some cultures chronological age begins
with conception, for this study the traditional United States method of measuring age from date of birth will be utilized.

To "perceive" is conceptually defined as the process of becoming aware of something through the senses (Merriam-Webster, 2000). This study requires a quantitative measurement of this sometimes gradual process of increasing awareness, therefore the term perception will be operationally defined as an affirmative or negative response by a participant to the question “Do you think your child is overweight?” If necessary, participants will be asked to clarify their response to this question with a “yes” or “no” answer.

Assumptions

For the purpose of this study the following statements are assumed to be correct:

1. The profession of Nursing has a moral imperative to be concerned with the problem of pediatric obesity.

2. Successful nursing intervention of a child’s health problem requires parental acceptance of the same problem.

3. Pediatric obesity can be correctly identified by parents.

4. Study participants will answer questions truthfully.
METHODOLOGY

This descriptive study examined the parental perception of obesity in their 2-5 year old children. After endorsement by the appropriate Thesis Committee members, approval to conduct this study was obtained from the University of Nevada, Las Vegas Institutional Review Board (IRB) Behavioral Sciences Committee on January 24th, 2006 as documented in Appendix C. The methodology used for this study is described below.

Settings and Design

The study settings were two Nevada Health Center WIC offices. Established in 1974, WIC is a federally funded, state administered program serving eligible women who are pregnant or breastfeeding and children up to their 5th birthday. Income eligibility varies slightly from state to state, and all WIC participants must be at risk for nutrition deficiencies as evidenced by anemia, underweight, or a maternal history of poor pregnancy outcome (National WIC Association, 2005). Nevada Health Center operates two of the sixteen WIC offices currently serving the Las Vegas community in the state of Nevada. Study participant recruitment was conducted at the two Nevada Health Center WIC
sites after permission was obtained from Nevada Health Centers and the WIC sites as evidenced by the agreements in Appendix C.

A descriptive survey design was utilized for this study. The purpose of a descriptive design is to provide a picture of a situation as it naturally happens, a step which is often a prerequisite to exploration of causality (Burns & Grove, 2001). If this descriptive study reveals a picture of parental perception of obesity that is not congruent with actual weight measurements of these parent’s children then further exploration of the causality of this finding might be indicated. The survey technique is appropriate because it is a nonexperimental, noninvasive means of obtaining parental opinions about their perception of their child’s weight.

Sample

A convenience sample of 30-50 participants was sought. Availability of actual participants meeting the study criteria and agreeing to participate determined the final sample size, but the student investigator (SI) wished to obtain a minimum of 30 participants. All participants who met the inclusion criteria listed below during the designated data collection time frame were asked to participate.

Inclusion criteria:

a. Male or female primary caretaker for the past two or more years of a child who is 2-5 years of age, inclusive.

b. Their child must have had a BMI greater than or equal to the 95th
percentile at their most recent WIC visit and the current WIC visit for the parent to be study eligible.

c. English and/or Spanish speaking.

d. At least 18 years of age.

e. Educated through at least 8 years of formal schooling, with assumed reading/verbal comprehension at the fifth grade level or above.

f. Willing to sign the consent form.

Procedure

Families participating in WIC are required to report to the program office six times each year. The WIC staff schedule families for bimonthly appointments which may incorporate nutritional education, height and weight measurements, assessment of hemoglobin levels and periodic financial eligibility reevaluation. The SI observed children in the waiting room as families arrived for their scheduled appointments. If a child appeared to meet the study age criteria and appeared to be overweight, the SI approached this child's parent in confidence and invited him or her to participate in this study. Parents were approached at a time that did not interfere with their appointment nor did it single them out in the waiting room, for example some parents were approached while in the lab awaiting the health care provider. If WIC staff planned to administer nutrition education during the visit, data collection for this study was conducted prior to this education.
When appropriate, the SI asked the potential participant if he or she preferred data collection to be in English or Spanish and, from that point on, proceeded in their preferred language. All study related documents printed in Spanish were checked for accuracy in translation by a native Spanish speaker employed as a professional Spanish/English translator for a Nevada hospital.

The SI briefly explained to the parent the purpose of the study, the time and effort requested, that participation was voluntary, and that $5.00 would be given upon completion of participation. All parents were reassured that participation would not affect WIC eligibility. Those parents who agreed to participate were shown the survey questionnaire and then asked to sign the informed consent (see Appendix D) which was written at an estimated 5th grade reading level in both Spanish and English. Next the participants were asked to answer each of the 5 survey questions that the investigator read to him or her, and then to answer 4 demographic questions that were also read to him or her. Upon completion the participant was provided with a copy of their informed consent, a laminated food pyramid, and $5.00 in cash.

Height and weight of eligible participants were measured by the same medical assistant at each visit. In 2 to 5 year old children height was measured with a stadiometer with the child wearing light clothing and socks but no shoes. These same children were weighed on a standing scale that is calibrated by an outside vendor approximately once every three months. By signing the informed consent, parents agreed to allow the SI to note their child's height and weight from that day's visit as well as from their most recent visit, as documented in the
medical record. For survey responses to have been considered eligible for inclusion in this study, children of surveyed parents must have had a BMI greater than or equal to the 95th% on the date of their participation as well as at their most recent previous WIC visit. This ensured that the parent had adequate time to observe their child’s excess weight.

If a parent had simultaneous WIC appointments for more than one study-eligible child, this parent was invited to participate in the study with only one of their children. The study child was chosen randomly by the SI who flipped a coin and chose the older child if heads turned up, the younger child if tails turned up.

If two parents accompanied one child to a WIC appointment, it was assumed that each parent had potential to influence the other’s perception of their child’s weight status. In this situation only one parent was invited to participate: that was the parent most involved in the child’s meal preparation and feeding based on self-reporting.

Before the actual study commenced, a pilot study was conducted with two WIC Program participants similar to the study participants. This pilot study was carried out at one of the study settings. The intent was for this pilot study to give the SI experience with administering the questionnaire, an opportunity to assess survey question clarity, and a chance to make any necessary adjustments.

Instrumentation

The instrument was a 5 question survey (see appendix E) developed by Sue Myers & Zulma Vargas (2000), who graciously granted permission for this
author to replicate their study (see appendix C). The first question concerned the parent's perception of their child's obesity and had 2 possible answers: "yes" and "no." Questions 2, 3, and 4 respectively addressed what problems a parent thinks an overweight child might have, what a parent might do to control their child's weight, and what has made it difficult to control the child's weight. Each of these 3 questions was multiple-response. Question two through four had 4-6 equally weighted responses with "other" always being the final option. The fifth question was open-ended; it asked "How do you feel about your child's weight?" After reading each question, the interviewer (SI) stated the possible responses, pausing after each to give the participant an opportunity to agree or disagree with the response. Participants were encouraged to select as many responses as they agreed with. If the parent's response didn't correspond to one of the response choices, the interviewer wrote the parent's response in a space appropriately designated on the questionnaire.

Parental demographic information collected by the SI during the interview included: highest level of education attained, ethnic background, age, and gender.

Data Analysis

All data were analyzed using SPSS® 12.0 (SPSS, Inc., 2003) for Windows software. Descriptive statistics were used to portray the sample characteristics and the responses to survey questions. Chi-Square tests (categorical/nominal data) were used to compare survey responses with demographic data. All "other"
responses to questions 1-4 were analyzed using content analysis, a means of classifying similar responses into given categories based on their theoretical value (Burns & Grove, 2001). Content analysis was also applied to the final open ended question in an attempt to classify highly variable responses into similar categories. Internal consistency reliability analyses (Cronbach’s Alpha) was conducted on the study instrument for the multiple response questions.
CHAPTER 5

FINDINGS

This chapter summarizes the findings of the study on parental perception of pediatric obesity. Demographics of participants are described followed by reliability analysis of the study’s six research questions. Findings of each question are then presented in numerical order. The Statistical Package for the Social Sciences (SPSS® 12.0 Inc., 2003) software was the program used to analyze the data.

Sample Description

Fifty-four survey questionnaires were administered by this student investigator to parents at Nevada Health Centers WIC Clinics between January 30th, 2006 and February 28th, 2006. The first two surveys comprised the pilot study, their findings have been eliminated. Data from 7 other surveys were deemed invalid because the parents had not completed eighth grade, the level of formal education this investigator previously deemed necessary for informed participation. An additional survey was invalidated because the parent stated she was not able to recall how many years she had attended school. Five surveys were invalidated because participant’s children had not been obese during two
consecutive WIC visits. One otherwise eligible parent expressed an interest in participating but did not comprehend enough English or Spanish to sign the consent with appropriate understanding, he was therefore not invited to participate. The total number of valid surveys reflected in the results is thirty nine (n= 39).

Every participant whose survey data is included has been the full-time caregiver of at least one obese child for at least two consecutive years immediately preceding survey participation. Thirty seven of these participants were mothers, 1 was a grandmother and 1 was a father of an obese child. Each participant was surveyed about one of their children, although several participants had more than one study eligible child. The children who were the focus of this survey ranged in age from their 2nd birthday to their 5th birthday. There were 21 boys and 18 girls included, with a mean age of 3 years, 3 months and a median age of 3 years, 4 months.

The majority of adult participants identified themselves as Hispanic (90%, n=35) while 5% (n= 2) were Asian-Pacific Islanders, one (2.5%, n=1) was African-American and one (2.5%, n= 1) described herself as "White, non-Hispanic." The majority of participants (82%, n=32) chose to respond to the survey in Spanish while the remaining 7 participants (18%) elected to participate in English.

Of the total sample (n=39), thirty eight females and 1 male met the inclusion criteria. These participants ranged in age from 20 to 53 years old. The mean age was 29.7 with a standard deviation of 7.3 years. The highest level of education
attained as reported by each participant ranged from 8 to 18 years with a mean of 11.5 years of formal education. Six participants stopped attending school after 8th grade, 4 reported having earned bachelors degrees, and one participant reported she has a master’s degree.

Reliability Analysis

The parental perception of pediatric obesity survey consisted of 5 questions: the first requested a yes/no response, questions 2-4 were multiple-response questions with “other” as the final option for each, and the fifth was an open-ended question. Internal consistency reliability analyses (Cronbach’s Alpha) was conducted for the multiple response questions 2, 3, and 4. The Cronbach’s Alpha coefficient was found to be 0.656, which is considered low since a minimum of .70 is preferred (Polit & Beck, 2004). This was partially expected due to the nature of the questions.

The data on “age” was reclassified as a categorical variable using US Census Bureau age categories. Participant “Educational level” was initially measured in years and for the purposes of this study later reclassified as a categorical variable (i.e., completion of Jr. HS, HS, or college).

Results

The following are the results of the statistical analyses pertaining to each research question.
Research Question 1

“What are the similarities and differences between parents in Southern Nevada and parents in Arlington, Virginia in the way they perceive their overweight 2-5 year old children who are WIC recipients?”

Study participants in Virginia and Nevada were similar in ethnicity, in percentage of their obese children represented by each age group, and in income. Myers & Vargas (2000) studied a WIC population in Virginia (n=200) that was 95% Hispanic, the WIC sample studied in Southern Nevada (n=39) was 90% Hispanic. In Virginia, age representation of participant’s children was fairly evenly divided among obese 2, 3, and 4 year olds at 30%, 30%, and 32.5% respectively. Age representation of participant’s children in Southern Nevada 2, 3, and 4 year olds was 38%, 25%, and 33% respectively. The number of 5 year olds is limited in both samples (6.5% and 3% respectively) because children become ineligible for WIC the day after their 5th birthday. Results of a Chi-Square comparing age frequencies of participant’s children in the Virginia study to age frequencies of participant’s children in the Nevada study are 2.15 with a P value of 0.542 and degrees of freedom = 3. This Chi-Square shows that there is no significant difference in age between the two groups of children. Although financial eligibility cutoffs for this federally funded program are determined by individual states, Virginia and Nevada have identical financial eligibility cutoffs.

Despite these similarities in population there were several differences in findings between the two studies. In 2000, Myers & Vargas found that 35% of parents in Virginia did not perceive their obese child as overweight. In 2006 the
present study found that 61.5% of parents in Nevada did not perceive their obese child as overweight. Another difference between the two studies concerned perceived parental control over what their children eat. Fifty three percent of parents surveyed by Myers & Vargas reported having no problem controlling what their child eats, yet in Nevada only 21% of parents reported having no problem controlling what their child eats.

Similarities between studies resulted from the survey question “What have you tried to do to control your child’s weight?” In Virginia, 37% of parents responded they had done nothing while in Nevada 44% responded they had done nothing to control their child’s weight. Yet 78% of parents in Virginia and 77% of parents in Nevada expressed awareness that an overweight child might develop heart problems later in life (Myers & Vargas, 2000).

Research Question 2

“Do parents of 2-5 year old obese children in a WIC Program in Southern Nevada believe their child is overweight?”

Among the 39 participants, 15 (38.5%) correctly identified their overweight children as being overweight. The remaining 24 participants (61.5%) did not recognize their overweight children as being overweight. Correctly identifying a child as overweight was independent of the gender of the child \( (G = 0.94, P = 0.760) \). However, it is noted that of the 15 parents who correctly identified their child as overweight, 8 were parents of girls and 7 were parents of boys. Among those parents who failed to recognize their overweight child as overweight 14 were parents of boys and 10 were parents of girls.
Parents were asked the open-ended question “How do you feel about your child’s weight?” Thirty-one out of 39 participants chose to answer this question. Eight said their child’s weight was “normal,” an additional 12 felt their child’s weight was “OK, good,” or “no problem.” Eight gave responses such as “a little big” and three expressed a higher degree of concern with responses such as “bad, worried.”

Research Question 3

“Do parents of 2-5 year old obese children in a WIC Program in Southern Nevada believe that childhood obesity presents a risk to a child’s physical or emotional health?

Seventy-seven percent (n=30) of parents expressed awareness that obese children may have heart problems when older. Sixty-seven percent (n=26) felt these children have difficulty playing and getting enough exercise. In addition, 44% (n=17) thought that difficulty making friends at school could be a problem and 49% (n=19) thought overweight children might not feel good about themselves. The number of observed responses was uniformly distributed ($X^2 = 4.78$, $P = 0.188$ with DF = 3). The number of “yes” responses (n=92) was unrelated to the gender of the child ($G = 4.26$, $P = 0.372$).

The survey question “What problems do you think an overweight child might have?” listed as a final answer choice “Other (explain).” Eleven participants responded to this option. Six of these participants expressed concern about potential for physical health problems including 3 who were concerned about overweight children having diabetes. The remaining 5 respondents thought that
overweight children might have emotional or social problems including two who were concerned about low self-esteem and two who were concerned about difficulty in obtaining fashionable clothes.

Research Question 4

"Is there a relationship between age, educational level, ethnicity of parents, and their perception of their 2-5 year old children being overweight?"

Correctly identifying a child as obese was independent of the age of the parent (G = 7.18, P = 0.208). Correctly identifying a child as obese was also independent of the educational level of the parent (G = 2.56, P = 0.278). Ethnicity of parents and parental perception could not be compared because most ethnic groups were not adequately represented in the sample.

Research Question 5

"What steps, if any, have parents of overweight 2-5 year old children in a southern Nevada WIC Program taken to slow their child's weight gain?"

Each participant was read a list of six possible responses that included "other." They were then encouraged to choose all responses that they agreed with. Thirty-three percent (n=13) of participants chose "Less snacks that are high in fat/sugar (chips, ice cream, cookies, candy)" and 31% (n=12) of participants selected "Cut down on fast foods (McDonalds, Wendy's, Popeye's)". In addition, 34% (n=13) of participants said they had "Cut down on soda, Kool Aid, Tang, and Hi-C" and 36% (n=14) chose "Increase my child's activity." The response selected most often was "nothing, because I don't think he/she is overweight," chosen by 44% of participants. Fifteen of the participants who are taking steps to
slow their child's weight gain responded negatively to the first question, that they felt their child's weight is not in excess, but nevertheless are taking action to prevent weight gain.

Thirteen participants responded that they had taken “other” steps to slow their child’s weight gain. Seven of these participants stated they were giving their child less of something, such as less milk (n=2), less soda (n=2), and less bread or cookies (n=2). An additional two participants were giving more skim milk in an effort to control their child’s weight. Five participants said they were increasing their child’s activity and gave specific examples such as bike riding. An additional participant stated: “One week ago we stopped going to McDonalds and started walking with her because I am worried.”

Two participants stated they would like to take their children to the park to slow their weight gain but that they weren’t able to do this. The first explained “he gets tired after we walk one or two blocks,” and the second explained “he (age 2 years, 8 months) is afraid of Black people, what if he sees one?”

Research Question 6

“If parents of overweight 2-5 year old children in a Southern Nevada WIC Program have taken steps to control what their child eats, what problems have made these steps difficult?”

Forty-nine percent of participants “have no problem with this” and therefore did not take steps to control what their child eats. Among those participants who reported difficulty in controlling what their child eats, the problems selected were “My child is cared for by a babysitter” (n= 3), “Other household members feed my
child without my knowledge” (n=4), “My child cries if I don’t give him/her what he/she wants” (n=8), and “Other.” Only two participants simultaneously selected more than one response to this question, they both selected “Other household members feed my child without my knowledge” and “My child cries if I don’t give him/her what he/she wants.”

Five participants reported having “Other” difficulties controlling what their child eats. Three of these participants reported child food dislikes are a problem, for example “he doesn’t like milk or vegetables.” One participant reported that her child “likes to eat every time somebody is eating,” and another reported “I don’t have enough money so I have to buy rice and pizza.”
DISCUSSION, CONCLUSION, and RECOMMENDATIONS

This chapter includes discussion and interpretation of the study findings and the study limitations. Also included are recommendations for practicing nurses, nurse educators, WIC, and further study. The discussion is organized according to the study questions for ease of presentation.

Discussion and Interpretation

Research Question 1

The first question was: "What are the similarities and differences between parents in Southern Nevada and parents in Arlington, Virginia in the way they perceive their overweight 2-5 year old children who are WIC recipients?" This question posed a valid comparison because the two populations being compared were similar in demographics. However, Myers & Vargas found that 35% of parents in Virginia did not perceive their obese child as overweight and this study found that 61.5% of parents in Nevada did not perceive their obese child as overweight. This disparity may have been partially due to sample size. Two other issues which may contribute to the difference in findings will be considered.

During the six years between the Myers & Vargas study and the present study there was an increase in obesity and a simultaneous increase in media
attention focused on this subject. Eric Schlosser's New York Times Bestseller "Fast Food Nation" was published in 2001. In 2003, the state of Arkansas Departments of Education and Health were highly criticized when Arkansas schools began mailing home annual BMI reports to parents of every public school student (Arkansas, 2006). In 2005 President Bill Clinton, who had weighed 210 pounds at age 15, toured several cities and made obesity the focus of a news conference in each city (CBSNEWS.com, 2005). Despite this publicity the present study showed fewer Nevada parents in 2006 were aware of their children's obesity when compared to Virginia parents in 2000, the opposite of what one might expect. Could the increased publicity have coincided with an increase in societal acceptance of the problem?

Diana Mason, PhD, RN, FAAN, is the Editor-in-Chief of the American Journal of Nursing. Dr. Mason publicly admitted her obesity in an editorial entitled "Whatever happened to Rubenesque?" (Mason, 2006). Her reference is to the 17th Century artist who is known for his oil paintings of large women. "I long for the days of Peter Paul Rubens, who painted women who look like me" (Mason). Dr. Mason was outward enough to write about her lifelong obesity, does this indicate that she feels more accepted now than she felt previously? Perhaps the National Association for Advancement of Fat Acceptance (NAAFA) is also an indication of increasing societal acceptance. This organization sponsors annual conventions and recently had a member welcomed as a guest speaker on the Larry King Show (NAAFA, 2006).
A second factor likely contributing to the disparity between study findings is the tendency of this and other researchers to lump together all people of Hispanic origin. Spanish is spoken in 21 countries (Levy-Konesky & Daggett, 2000). Culture and some aspects of the Spanish language are different in each of these countries. In Virginia, 24% of Hispanics are of Mexican origin while Cuba and Puerto Rico contribute the majority of this states' Hispanic population. Nevada's Hispanic population is estimated to be at least 75% Mexican in origin, with Cuba and Puerto Rico contributing relatively fewer people (Levy-Konesky & Daggett, 2000). Do cultural differences account for the disparity in responses to question one?

Gordon-Larsen, Harris, Ward and Poplin surveyed acculturation and overweight-related behaviors among Hispanic immigrants to the US (2003). They defined acculturation as "the acquisition of dominant cultural norms by members of a non-dominant group." Gordon-Larsen, et al. compared Mexican, Puerto Rican, and Cuban adolescents (n = 8,613) and found that longer US residence was associated with increased overweight among Puerto Ricans and Cubans but not among Mexicans. It was noted that the Mexicans had similar overweight prevalence across the generations, they were more overweight on arrival in the US than were Puerto Ricans and Cubans (Gordon-Larson, 2003). Perhaps the multi-generational obesity in Mexican Hispanics (who comprise at least 75% of Nevada Hispanics) and relatively new onset of obesity in Puerto Rican and Cuban Hispanics (who comprise the majority of Hispanics in Virginia) contributed to a relative desensitization of Mexican Hispanics to obesity. If so, this may have
accounted for Hispanics in Nevada perceiving less obesity in their children when compared with Hispanics in Virginia.

**Research Question 2**

The second research question was: “Do parents of 2-5 year old obese children in a WIC Program in Southern Nevada believe their child is overweight?” In addition to Hispanic culture, Southern Nevada culture could have played a role in influencing the 61.5% of parents who did not believe their obese child was overweight. Nevada adults comprise the 18th most obese state in the nation, with 21.2% of our adult population considered obese. However, in per capita Public Health Care spending Nevada ranks 43rd (United Health Foundation, 2004). There is a possibility that the general lack of emphasis on health influenced the parental perception of obesity in Southern Nevada. Also, the possible increase in societal acceptance of obesity as discussed under “Research Question 1” is applicable here.

Correctly identifying a child as being overweight was found to be independent of the gender of the child in the present study. This finding is consistent with two previous studies. The first surveyed parents (n=622) of preschoolers at nine Kentucky WIC Clinics (Bauaghcum, Chamberlin, Deeks, Powers, & Whitaker, 2000), the second collected questionnaires from 2863 parents of 5-13 year olds in Australia (Wake, Salmon, Waters, Wright, & Hesketh, 2001). Both of these studies found parental perception to be independent of child gender.
This finding concerning the relationship between parental perception and child gender was also contradicted by at least two other previous studies. The first looked at (n=755) adolescents in Minnesota and found that mothers of overweight girls were 50% more likely to recognize overweight than were mothers of overweight boys (Boutelle, Fulkerson, Neumark-Sztainer, & Story, 2004). The second previous study looked at (n=277) preschool children in the UK and found that only 27% of obese boys were appropriately classified as overweight by parents while 54% of obese girls were appropriately classified as overweight by parents (Jeffery, Voss, Metcalf, Alba, & Wilkin, 2005).

Thirty one parents responded to the open-ended question in the present study “How do you feel about your child’s weight?” Twenty of these parents (64.5%) felt there was no problem with their child’s weight. This is consistent with responses to research question one.

Research Question 3

The third research question was: “Do parents of 2-5 year old obese children in a WIC Program in Southern Nevada believe that childhood obesity presents a risk to a child’s physical or emotional health?” It is surprising that 77% (n=30) of participants expressed awareness that obese children may have heart problems later in life, yet many of these same participants failed to recognize obesity in their own children. Perhaps some participants are aware that Mexican-American women have a higher prevalence of cardiovascular disease risk factors than White women of comparable socioeconomic status (Thom, T., Haase, N., Rosamond, W., Howard, V., Rumsfeld, J., Manolio, T. et al., 2006) and their
responses were influenced by this knowledge. Or, perhaps obesity is so common that despite increasing knowledge of the associated health risks our society is becoming desensitized to obesity's outward appearance?

Twenty-six participants were aware that obese children may have difficulty playing and getting enough exercise, 17 thought that difficulty making friends at school could be a problem, and 19 thought that overweight children might not feel good about themselves. This was not surprising since the SI observed that many of the participants were themselves overweight and likely had experienced these emotional consequences of obesity first hand. This finding is consistent with Kathryn Barnard's Theory of Parent/Child as an interactive system. This finding is also consistent with the literature. For example, Strauss & Pollack did a cross-sectional, nationally representative cohort study of over 90 thousand adolescents enrolled in the National Longitudinal Study of Adolescent Health and found that overweight adolescents were more likely to be socially isolated than were normal-weight adolescents (2003).

**Research Question 4**

The fourth question was: "Is there a relationship between age, educational level, ethnicity of parents, and their perception of their 2-5 year old children being overweight?" No such relationships were found by this study. Several previous studies also failed to find a relationship between parental age and parental perception of obesity, for example, Baughcum, Chambrlin, Deeks, Powers & Whitaker in 2000.
Parental level of education and appropriate parental perception of obesity have been correlated by several studies. Pediatricians in Italy administered questionnaires to 569 mothers and found a significant correlation between higher maternal level of education and correct perception of the child’s weight (Genovesi, Guissani, Faini, Vigorita, Pieruzzi, Strepparava, et al., 2005). In the United States researchers looked at data from the Third National Health and Nutrition Examination Survey which included maternal interview data on 5,500 children. They concluded the adjusted odds that a mother would misclassify her overweight child were greater among mothers who had a high school education or less as their highest level of education attained when compared to college educated mothers (Maynard, Galuska, Blanck, & Serdula, 2003).

No comparative studies examining ethnicity and parental perception of obesity were found in the literature. However several studies looked at parental perception of obesity in particular ethnic groups. A study in Italy reported that 28% of mothers underestimated their child’s body weight (Genovesi, Guissani, Faini, Vigorita, Pieruzzi, Strepparava, et al., 2005). Jain, Chamberlin, Carter, Powers, and Whitaker looked at low-income Black mothers and found that only 11% of those with an overweight preschool-aged child believed that their child was overweight (2001).

It is possible that the present study did not find significant relationships because of its small sample size, or because no correlation existed in the population that was studied. Comparisons for ethnicity could not be made in this study due to the predominance of Hispanic participants.
Research Question 5

The fifth question, “What steps, if any, have parents of overweight 2-5 year old children in a southern Nevada WIC Program taken to slow their child’s weight gain?” revealed that parents are taking steps in this direction. Thirteen are giving their children “Less snacks that are high in fat/sugar, 12 have “Cut down on fast food”, 13 “Cut down on soda, Kool-aid, Tang, and Hi-C,” and 14 parents chose “Increase my child’s activity.”

It is interesting to note that 15 participants who admittedly are taking steps to slow their child’s weight gain also felt that their child’s weight is not in excess. Are these participants taking steps to slow weight gain just as a precaution, or are these participants afraid to admit to the SI that their child has a weight problem? The SI identified herself as a nurse, and this may have made participants reluctant to admit their child has a weight problem. It would be interesting to self-administer the same survey to a control group of 39 Southern Nevada WIC participants and compare those findings to the current study group which had the questions read to them by the SI. This might determine if participant responses were affected by the presence of the student investigator, who is also a nurse, in recording their opinions.

Research Question 6

The sixth question was: “If parents of overweight 2-5 year old children in a Southern Nevada WIC Program have taken steps to control what their child eats, what problems have made these steps difficult?” Forty-nine percent of participants “have no problem with this” and therefore did not take steps to
control what their child eats. Among parents who did report difficulty, 3 responded that "My child is cared for by a babysitter," 4 stated "Other household members feed my child without my knowledge," and 8 reported "My child cries if I don't give him/her what he/she wants."

Researchers in Pennsylvania recruited mothers from a WIC clinic waiting room for participation in focus groups (Sherry, et al., 2004). Twelve groups were formed, with mothers assigned to groups according to similarities in income and ethnicity. Researchers determined that while most middle-income participants did not accommodate children's requests for specific foods, low-income Hispanic parents were concerned that children should "have what they need" and have "what is liked" which included accommodating requests for specific foods (Sherry, 2004). Are Hispanic parents accommodating food requests to avoid confrontation and to avoid the need to set limits, or are they following their cultural norms?

Limitations

Sample size (n=39) was a major limitation in this study. As a result, certain ethnic groups and male parents were not adequately represented. The findings of this study cannot be generalized beyond WIC eligible, Hispanic mothers in Southern Nevada. An additional limitation was imposed by the student investigator's requirement that participants have had at least 8 years of formal education. This requirement resulted in elimination of 7 otherwise eligible
participants. These invalidated participants may have had different perceptions of their child's weight as a result of the amount of formal education they completed.

An additional major limitation of this study was the survey questionnaire. The three multiple response questions had a Cronbach's Alpha of 0.656, indicative of low internal consistency. Also, there is no established reliability or validity for any of the questions. The survey is superficial in covering the topic.

Recommendations

Recommendations for Practicing Nurses

Nurses in Southern Nevada need to be aware that Hispanic mothers of overweight 2-5 year olds may not perceive that their overweight children are overweight. This knowledge is important because nurses have a moral imperative to slow the current increase in pediatric obesity when such a professional opportunity arises. Nurses should also be aware that compared with other racial/ethnic groups, Hispanic children are more likely to be overweight (Nelson, Chiasson, & Ford, 2004; Ogden, Flegal, Carroll, & Johnson, 2002). Nursing intervention is not likely to be effective if a nurse incorrectly assumes that a parent recognizes their child's weight as a problem.

Nurses worldwide need continuing education on the causes, implications, prevention, and growing incidents of obesity in all age groups. In the United States bariatric surgery is now covered by Medicare (Tumulty, 2006). These procedures will no longer be limited to specialty hospitals, and, nurses on every medical-surgical floor will need additional training in the care of these patients
and in their life long risks of post-operative complications (Dimant, 2005). Related technology such as oversized beds that convert to chairs also requires additional training. Availability of continuing education on these topics is increasing and nurses should take advantage of these opportunities.

**Recommendations for Nurse Educators**

The influence of culture on health as demonstrated by this and other studies should be omnipresent in the minds of nurse educators. It is suggested that the current emphasis on transcultural nursing education could be enhanced in the context of Bernard's Parent-Child Interaction Theory. The focus of her theory is the parent-child as an interactive system (Tomey & Alligood, 2002). It is purposed that the child is simultaneously influenced by the parents and by the families' culture, and that the effective nurse must be cognizant of these two interdependent, synergistic influences. For example, one study participant was interviewed about her son who weighted 62 pounds four days before his third birthday. A healthy weight for this 42.3" child at the 50th percentile would have been 41 pounds (CDC, 2000), or 50% less than his actual weight. This participant felt that her son's weight was "pretty normal, in our culture it is good for boys to be a good size." If a nurse wanted to teach this parent about her child's potential for weight related health problems, this nurse would have to consider the parents culture, the parent's interaction with her child, and the synergistic combination of these two interdependent factors.

Consistent with this recommendation for enhanced transcultural nursing education is the need for ready access to "Spanish for Medical Personal" courses
for those nurses working in geographic locals with a large influx of Hispanic immigrants. Because undergraduate nursing curriculums are already overburdened, it is suggested that hospital based nurse-educators seek a means of rewarding graduate nurses for educating themselves in Spanish language and culture. Rewards in the form of continuing education units, foreign language scholarships, and additional salary for bilingual staff should be considered. Enhanced nurse-patient communication would decrease liability (Sterneck, 2001) and therefore be a cost-effective investment for health care employers.

The National League for Nursing expresses support for evidence-based teaching in their Mission Statement (NLN, 2006). However with the amount of published research expanding logarithmically, maintenance of appropriate contemporary knowledge is challenging for busy nurse educators. It is therefore important for nurses to find information that is easily accessible as well as accurate. It is suggested that nurse educators may find one source especially useful for updates on research, which is “Healthy People 2010” and the various related web sites. More than 350 public and private organizations collaborated “to identify the most significant preventable threats to health and establish national goals to reduce these threats” (Healthy People 2010, 2006). Links to frequent “Progress Reviews” containing related research summaries are readily accessed, for example the “Nutrition and Overweight” update which states that Healthy People 2010 objectives for weight status of adults and children reflects a trend for the worse (U.S. Department of Health and Human Services, 2004).
“Nutrition and Overweight” is one of 28 Healthy People 2010 focus areas, all of which are of potential interest to nurses and nurse educators.

Pediatric obesity and its implications should be part of the undergraduate curriculum. A learning activity might include having students visit the “Nutrition and Overweight” section of the Healthy People 2010 website in preparation for a class debate entitled “Are parents to blame for the increase in pediatric obesity?” Another possible learning activity would be to assign each student a clinical day at WIC. This clinical day would include observing the nutritionist in his/her role as counselor to families with underweight and overweight children.

Recommendations for WIC

Two suggestions for improvement were developed by this SI based on observations made during data collection. The first suggestion concerns a 20 minute video which new parents participating in the WIC program are required to view, “Feeding With Love.” In this video, the narrator explains that “studies indicate the fat baby has no greater risk of growing up with feeding problems than the thin baby.” A recent metanalysis of 24 studies published in the British Medical Journal found that “in the majority of studies the infants who were the heaviest and those who gained more weight rapidly during the first two years of life were more at risk of obesity” (Reaney, 2005). It is recommended that the video be updated to reflect current research. Also, “Feeding With Love” should emphasize that numerous studies have found breast-fed babies are less likely than formula fed babies to become obese (Hediger, Overpeck, Kuczmarski, & Ruan, 2001; Dietz, 2001; Grummer-Strawn, & Mei, 2004).
An additional suggestion concerns enhanced utilization of the WIC Registered Dietician (RD). This full-time employee provides much needed personal nutrition assessment and counseling to those families referred by WIC clerical staff. Due to frequent clerical errors families with overweight and underweight children often bypass the RD while families with normal weight children are sometimes referred to the RD for weight counseling. The source of this frequent clerical error appears to be the WIC coding system that often makes use of “≥” and other algebraic symbols. For example, one clerk whose responsibilities had included coding during the previous four months asked this SI to explain some of the algebraic symbols utilized in the coding manual. After the SI assisted the clerk and discussed this observation with the RD, a scheduled staff training meeting was dedicated to teaching proper use of algebraic symbols. However, due to frequent turnover of WIC clerical staff and their high pressure work environment this SI is suggesting that symbols be permanently replaced by words in the staff coding manual. For example, “any child whose BMI is ≥ 25 should be coded as overweight” would instead read “any child whose BMI is equal to or higher than 25 should be coded as overweight.” This and related changes in the WIC coding manual would likely result in a larger number of appropriate families benefiting from the dietician's expertise.

Recommendations for Further Study

This study should be repeated with a larger sample size. Validity of a larger study would be enhanced if the sample were demographically and socioeconomically more diverse. Enhanced ethnic diversity would allow for
additional useful comparisons. It is also recommended that the survey instrument be altered in vocabulary to accommodate participants who have completed fewer years of formal education. Additional useful information might be gained from collecting data on the participant’s perceptions of their own weight as well as their actual BMIs.

A major limitation of this study was the limited coverage of the topic afforded by the survey. It is therefore recommended that a more reliable, valid tool be developed for use in further studies. The ideal tool would provide more insight into the problem and could therefore lead to more precise conclusions and ultimately more helpful interventions.
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SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Disease Prevention and Health Promotion (2000).

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Depiction of Kathryn Barnard's Child Health Assessment Interaction Theory. Used with permission from the University of Washington School of Nursing.
Memorandum of Understanding  
Between  
Nevada Health Centers, Inc.  
And  
Mary Hackie, RN  
Graduate Student, School of Nursing  
University of Nevada, Las Vegas  

This Memorandum of Understanding is designed to formalize the relationship between Nevada Health Centers, Inc. and Mary Hackie, RN regarding her thesis study on Pediatric Obesity at the Nevada Health Centers WIC Clinic located at 3900 Cambridge Ave. Suite 102, Las Vegas, NV 89109.

Terms of Agreement

1. Nevada Health Centers, Inc. (NVHC) agrees to provide the following at no cost to Mary Hackie, RN:
   a. Access to patient records for purposes of the study
   b. Use of needed space and furnishings
   c. Security
   d. Use of the restroom

2. Mary Hackie, RN agrees to do the following at no cost to NVHC:
   a. Work with the staff to identify children that meet the criteria of the study
   b. Contact information in case an issue should arise
   c. Paper, forms and other materials required for her study
   d. Payments to patient for participation

The period of study will be from January 1, 2006 to February 28, 2006. Mary Hackie will follow all HIPPA regulations. No documents belonging to Nevada Health Centers, Inc. will leave the premises and all items with names that are not used will be shredded. Participation in the survey will be voluntary and participants will clearly understand this and sign appropriate release.

This friendly and non-obligatory agreement manifests the goodwill of the signers and their desire to cooperate in her study to determine parental perception of pediatric obesity. No element of this agreement will be construed to imply any form of financial or monetary obligation or liability, nor confer on one party the capacity to represent or act as an agent of the other. This agreement may be suspended or terminated by either party on 30 days written notice to the other.

Steven Hansen  
CEO, Nevada Health Centers, Inc.  

Mary Hackie, RN  
Graduate Student, UNLV

Date  
1/5/06  

Date  
12/5/05
Amendment to Memorandum of Understanding
Between
Nevada Health Centers, Inc.
And
Mary Hackle, RN
Graduate Student, School of Nursing
University of Nevada, Las Vegas

This Amendment to the Memorandum of Understanding is designed to allow the
relationship between Nevada Health Centers, Inc. and Mary Hackle, RN regarding her
thesis study on Pediatric Obesity at the Nevada Health Centers Valley to be extended to
include conducting her study at the WIC Clinic located at 2031 McDaniel St. Suite 102,
North Las Vegas, NV 89030 in addition to the WIC Clinic located at 3900 Cambridge
Ave. Suite 102, Las Vegas, NV 89109.

All other original Terms of Agreement remain as in document signed on
12/14/2005.

Stevan Hansen
CEO, Nevada Health Centers, Inc.
2/3/06

Mary Hackle, RN
Graduate Student, UNLV
2/7/06

Date
Date

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
DATE: January 24, 2006

TO: Dr. Cheryl Bowles, Nursing Department

FROM: Office for the Protection of Research Subjects

RE: Notification of IRB Action by Dr. Paul Jones, Co-Chair

Protocol Title: Parental Perception of Childhood Obesity
Protocol #: 0601-1845

This memorandum is notification that the project referenced above has been reviewed by the UNLV Social/Behavioral Institutional Review Board (IRB) as indicated in Federal regulatory statutes 45 CFR 46. The protocol has been reviewed and approved.

The protocol is approved for a period of one year from the date of IRB approval. The expiration date of this protocol is January 24, 2007. Work on the project may begin as soon as you receive written notification from the Office for the Protection of Research Subjects (OPRS).

PLEASE NOTE:
Attached to this approval notice is the official Informed Consent/Assent (IC/IA) Form for this study. The IC/IA contains an official approval stamp. Only copies of this official IC/IA form may be used when obtaining consent. Please keep the original for your records.

Should there be any change to the protocol, it will be necessary to submit a Modification Form through OPRS. No changes may be made to the existing protocol until modifications have been approved by the IRB.

Should the use of human subjects described in this protocol continue beyond January 24, 2007, it would be necessary to submit a Continuing Review Request Form 60 days before the expiration date.

If you have questions or require any assistance, please contact the Office for the Protection of Research Subjects at OPRSHumanSubjects@unlv.nevada.edu or call 895-2794.
March 9, 2006

Mary Hackie
UNLV School of Nursing
Las Vegas NV

Dear Mary,

We grant you permission to reproduce the Barnard Model in your thesis. Please note that you are reproducing with permission of NCAST-AVENUW and any other use is not allowed.

Good luck with your thesis. We would enjoy seeing a copy of your finished work.

Sincerely,

Denise Findlay
Training Coordinator
dmf56@u.washington.edu
Mary Hackie
1965 Heritage Oaks Street
Las Vegas, NV 89118

Dear Ms. Hackie,

You have my permission to use the survey instrument that Zulma Vargas and I developed, which was published in Pediatric Nursing (Volume 26, issue 1), entitled, Parental Perceptions of the Preschool Obese Child.

Best wishes on your upcoming research study.

Sincerely,

Sue Myers, PhD, APRN, BC
Assistant Professor
Graduate Program in Nursing
TITLE OF STUDY: Parental Perception of Pediatric Obesity
INVESTIGATOR(S): Mary Hackie, RN and Dr. Cheryl L. Bowles, EdD, RN
CONTACT PHONE NUMBER: (702) 895-3082

Purpose of the Study
You are invited to participate in a research study. The purpose of this study is to determine what parents in Southern Nevada think about their child's weight.

Participants
You are being asked to participate in the study because you have a child or children in the W.I.C. (Women, Infants and Children) Program.

Procedures
If you volunteer to participate in this study, you will be asked to do the following:
1. Answer 5 questions that will be read to you.
2. Answer 4 questions about yourself that will be read to you.
3. Permit the investigator to check your child's height and weight in their medical record.
This study will take about 10 minutes of your time.

Benefits of Participation
There may not be direct benefits to you as a participant in this study. However, we hope to learn how to assist other parents in keeping their children's weight healthy.

Risks of Participation
There are risks involved in all research studies. This study includes only minimal risks. The risk is that there is a possibility you may become uncomfortable while answering some of the questions.

Cost/Compensation
There will not be any financial cost to you for participating in this study. The study will take about 10 minutes of your time. You will receive $5.00 for participating in the study. The University of Nevada, Las Vegas will not provide compensation or free medical care for an unanticipated injury sustained as a result of participating in this research study.

Contact Information
If you have any questions or concerns about the study, you may contact Cheryl Bowles at 895-3082. For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office for the Protection of Research Subjects at 702-895-2794.
TITLE OF STUDY: Parental Perception of Pediatric Obesity
INVESTIGATOR(S): Mary Hackie, RN and Dr. Cheryl L. Bowles, EdD, RN
CONTACT PHONE NUMBER: (702) 895-3082

Voluntary Participation
Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university or the W.I.C. Program. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality
All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for at least 3 years after completion of the study. After the storage time the information gathered will be destroyed.

Participant Consent:
I have read the above information and agree to participate in this study. I am at least 18 years of age. A copy of this form has been given to me.

Signature of Participant ___________________________ Date ___________________________

Participant Name (Please Print) ___________________________

Participant Note: Please do not sign this document if the Approval Stamp is missing or is expired.
TITULO DE INVESTIGACION: PERCEPCION PARENTAL PARA EXCESO DE PESO PEDIATRICO

INVESTIGADORES(S): Mary Hackie, RN and Dr. Cheryl L. Bowles, EdD, RN

LINEA DE INFORMACION: (702) 895-3082

Proposito o intencion de investigacion
Se invita a participar en un investigacion. La intencion de esta investigacion es averguar que piensan los padres en Nevada sobre el peso de sus ninos

Participantes
Se le invita a participar en esta investigacion por si usted tiene un hijo or hijos en el programa W.I.C. a Madres, infantes, y hijos

Los Procedimientos
Si se hace voluntario a participar en este studio, se preguntara que haga la siguiente:
1. Responder a 5 preguntas que va a leer el investigador.
2. Responda 4 preguntas sobre usted que el investigador hara.
3. Permitir el investigador notar la altura y peso de su nino en su registro de medico.
Esta investigacion tomará mas o menos 10 minutos de su tiempo.

Beneficios al Participar:
Tal vez no vaya a tener beneficios directas a usted como un participate en este studio. Sin embargo, esperamos que podamos aprender como ayudar a otras padres en mantener el peso de sus ninos saludables

Riesgos de Participacion
Siempre hay riesgos en cualquier investigacion scientifica que se hace. Este investigacion hay riesgos minimos. Hay un riesgo de posibilidad que usted podria sentirse incomodo al responder algunas de las preguntas por parte del investigador.

Los costos de Participacion o Recompensa
No seran costos financiado por usted al participar en el studio. El studio tomará 10 minutos de su tiempo. Al participar va a recibir un recompensa o compensacion monetario de $5.00. La Universidad de Nevada, Las Vegas no proveera compensacian o cuidado de medico gratis para cualquiera herida como resultado de participar en este investigacion.

Linea de Informacion
Se tiene algunas preguntas o preocupaciones sobre la investigacion puede comunicarlas a Cheryl Bowles al telefono 702-895-3082. Si hay preguntas en base o relacion a las derechas de los sujetos de investigacion, quejas, comentario o sugerencias sujetas al estudio o investigacion en referencia a
TITULO DE INVESTIGACION: PERCEPCION PARENTAL PARA EXCESO DE PESO PEDIATRICO

INVESTIGADORES(S): Mary Hackie, RN y Dr. Cheryl L. Bowles, EdD, RN

LINEA DE INFORMACION: (702) 895-3082

la manera en lo cual el estudio esta siendo conducido pueden ponerse en comunicacion con la oficina de La Universidad de Nevada, Las Vegas para la proteccion de los participantes a dicha investigacion el telefono para llamar es 702-895-2794

Participacion Voluntaria
Su participacion en esta investigacion es voluntaria. Se puede rehusar a participar en este estudio en cualquier momento. Se puede rehusar sin prejucio a su participacion. La Universidad con el programa de W.I.C. sugerimos que usted haga preguntas sobre este estudio desde el principio o en cualquier tiempo durante el estudio.

Confidencialidad
Toda la informacion recopilada en esta investigacion se mantendra completamente confidencial. Ninguna referencia sera hecha en forma escrita o oral que pueda relacionar a usted o al estudio. Todos los registros seran almacenados en una area segura con llave dentro de UNLV por lo menos 3 anos despues de la conclusion del estudio. Ya pasado este tiempo estimado la informacion sera destruida.

Autorizacion de Participante:
He leido la informacion anexa y autorizo a participar en esta investigacion. Tengo la edad de 18 anos o mas. Una copia de autorizacion o formulario se me ha sido entregada.

Firma de Participante
Fecha

Nombre y apellido de Participante

Atencion Participante: Por favor no se firma este documento sin el sello de aprobacion no existe o ha vencido

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Parent's Perception of Their Child's Weight Questionnaire
(These questions will be read to participants and answers marked by the PI)

1. Do you think your child is overweight?
   - Yes
   - No

2. What problems do you think an overweight child might have?
   - Heart problems when older
   - Difficulty with playing and getting enough exercise
   - Difficulty making friends at school
   - Not feeling good about himself/herself
   - Other (explain)

3. What have you tried to do to control your child’s weight?
   - Nothing, because I don’t think he/she is overweight
   - Less snacks that are high in fat/sugar (chips, ice cream cookies, candy)
   - Cut down on fast foods (McDonald’s, Wendy’s, Popeye’s)
   - Cut down on soda, Kool Aid, Tang, Hi-C
   - Increase my child’s activity
   - Other (explain)

4. What has made it difficult to control what your child eats?
   - I have no problems with this
   - My child is cared for by a babysitter
   - Other household members feed my child without my knowledge
   - My child cries if I don’t give him/her what he/she wants
   - Other (explain)

5. How do you feel about your child’s weight?
Demographic Questionnaire
(This information will be collected by the PI)

1. Highest level of education attained

2. Ethnic background

3. Age

4. Gender
La Percepcion Paternal Sobre El Peso de Sus Niños (Questionario)

(Éstas preguntas sera leído a los participantes y los respuestas clasificado por el indagador)

1. Piensa usted que el peso de su niño es en exceso?
   - Si
   - No

2. Que problemas piensa usted que un niño de peso exceso podria tener?
   - Problemas de Corazon despues en la vida
   - Dificultad con jugar y consiguiendo bastante ejercicio
   - Dificultad en manteniendo amistades en la escuela
   - Pensando mal de si mismo
   - Otra (explique por favor)

3. Que ha hecho usted a controlar el peso de su niño?
   - Nada porque no pienso que mi niño o niña lleva demasiado peso
   - Menos bocados o bocadillos que son altas de grasa y azucar (tortillas fritas, papas fritas, helados, galletas, y dulces)
   - He disminuido las cantidades de comida rapido que consume mi niño/niño (McDonalds, Wendy’s, Popeye etcetera)
   - He disminuido las bebidas azucarosas (Soda, Kool Aid, Hi-C, etcetera)
   - He aumentado las actividades físicos de mi hijo o la participacion de deportes
   - Otra (explique por favor)

4. Que le hace dificil a controlar lo que su hijo consume como comida?
   - No tengo ningun problema con esto
   - Mi hijo se cuida por un cuidaniños
   - Otros miembros de la familia dar comida a mi niño sin mis conconcimiento
   - Mi niño llora mucho si no le da la comida que quiere
   - Otra (Explique por favor)

5. Como se sienta sobre el peso de su niño?
Cuestionario Demográfico
(Esta información sera coleccionado por el investigador)

1. Lo más alto nivel de educación completada
2. Fundo étnico
3. Edad
4. Sexo
VITA

Graduate College
University of Nevada, Las Vegas
Mary Hackie

Home Address:
1965 Heritage Oaks Street
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Degrees:
Associate in Applied Science, Nursing, 1987
Borough of Manhattan Community College

Bachelor of Science, Nursing 1999
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Special Honors and Awards:
Lair Scholarship
Advanced Education Nursing Traineeship Award
Sigma Theta Tau International Honor Society for Nursing Scholarship
School of Nursing Representative to the Graduate Professional Student Association, September 2003 - August 2005

Thesis Title:
Parental Perception of Pediatric Obesity

Thesis Examination Committee:
Chairperson, Dr. Cheryl Bowles, Ed.D., RN
Committee Member, Dr. Mary Bondmass, Ph.D., RN
Committee Member, Dr. Pat Alpert, Ph.D., RN
Graduate Faculty Representative, Dr. Susan Meacham, Ph.D., RD