Benefits children in low-income families receive from attending a community-based health fair

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FINAL APPROVAL OF SCHOLARLY PROJECT
Master of Science in Nursing

Benefits Children in Low-Income Families Receive From Attending A Community-Based Health Fair
Submitted by
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In partial fulfillment of the requirements for the degree of Master of Science in Nursing

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From Attending A Community-Based Health Fair

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DEDICATION

This research project is dedicated to the memory of my loving father, Theodore R. White and mother, Roberta Bryant. Their Christian guidance, prayers, and support throughout my life have always been my source of inspiration. Therefore, I wish to dedicate not only this research project to my parents, but everything that I am. If they were here I would express my love and gratitude by saying “Thanks” from the bottom of my heart for the love, encouragement, and motivation that you gave me”.

I also want to express my sincere “Thanks” and appreciation to my loving son, Emanuel A. White, for being patient, kind and considerate. Throughout my educational journey he spent countless times and hours with me in the classroom and library. I am grateful God blessed me with an outstanding, spectacular son.

TO YOUTH

HOW shall your name go down in History,
In letters of gold, or enveloped in mystery,
In deeds of love, on pages of white,
In defense of the wrong, in lieu of right - -
In a selfish was will you carve your name?
Time surely will answer: What’s in a name?

The leaves of your life each day are unfolding
Your deeds of to-day; to-morrow beholding,
May tint your cheek with the blush of shame,
While your heart will question: What’s in a name?
Will you gather the jewels spread out at your feet,
Or still with the idle ones find a seat?

No definite cause in the world pursuing - -
In the idle brain mischief is ever brewing - -
Can you find no work in the market-place,
Can you not with the horsemen contend in the race;
If the footmen outstrip you who is to blame?
Be careful in youth how you carve your name.

Josephine D. Heard (Henderson)
ACKNOWLEDGEMENTS

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Sincere appreciation is extended to Mary Gregory, M.Ed., RN and the Wyman D. Palmer YMCA Community Center for their support and participation.

To all of my supportive Family Members and special Friends I express my thanks for your prayers, love, and understanding during my educational journey. Thanks for being there when I needed you.

“I thank God upon every remembrance of you, …” Philippians 1:3
# TABLE OF CONTENTS

DEDICATED .................................................................................................................................................. i

ACKNOWLEDGEMENTS ......................................................................................................................... ii

TABLE OF CONTENTS .......................................................................................................................... iii

LIST OF TABLES AND FIGURE ........................................................................................................ vi

CHAPTER I – INTRODUCTION ........................................................................................................... 1

  Statement of Problem.......................................................................................................................... 5

  Nursing Theoretical Framework........................................................................................................ 6

  Statement of Purpose.......................................................................................................................... 9

  Research Question............................................................................................................................. 9

  Definition of Terms ........................................................................................................................... 9

    Definition of terms for the community-based health fair ......................................................... 11

  Significance ......................................................................................................................................... 12

  Assumption ....................................................................................................................................... 14

  Summary .......................................................................................................................................... 15

CHAPTER II – THEORETICAL FRAMEWORK AND LITERATURE REVIEW .......... 16

  Nursing Theoretical Framework...................................................................................................... 16

  Literature Review .......................................................................................................................... 19

    Low-income ................................................................................................................................. 19

    Obesity and Health ...................................................................................................................... 20

    Health Fairs ................................................................................................................................. 22

    Health Fairs and Dentistry .......................................................................................................... 22

    Health Fairs and Vision ............................................................................................................... 24
LIST OF TABLES AND FIGURE

Table 1.1 2001 Health & Human Services Poverty Guidelines ........................................... 10

Figure 2.1 Overview of the interrelationship between the Dependent Care Agency, Supportive-educative nursing system, and Improved Child Health ................................................................. 18

Table 4.1 Age ~ Gender of Children (N=596) ................................................................. 32
Table 4.2 Household Composition (N=596) .................................................................. 33
Table 4.3 Annual Household Income (N=593) ................................................................ 33
Table 4.4 Ethnic Background of Children (N=596) .......................................................... 34
Table 4.5 Physical Examinations (N=596) ..................................................................... 34
Table 4.6 Dental Screenings (N=596) .......................................................................... 36
Table 4.7 Vision Screenings (N=569) ........................................................................... 37
CHAPTER I

Introduction

Disparity has existed in the health field among the elderly and children in the low-income sector for many decades (Stone, 2002). The United States Commission on Civil Rights (September, 1999) states “equal access to health care for all Americans is a fundamental goal…” however, this is a goal individuals in the low-income sector have been unable to attain. Income and education are considered socioeconomic barriers to quality health care, higher rates of morbidity, and inequality in mortality rates. An objective of Healthy People 2010 is to eliminate health disparities.

In spite of the fact that death rates have fallen in the United States, a research study by Schalick, Hadden, Pamuk, Navarro, and Pappas (2000) demonstrated a significant gap in the death rates between higher and lower income populations. When the mortality rates for the high-income population was compared to the middle and low-income population for the years of 1967 and 1986, “mortality decreased with each rise in income level” (p. 13). This meant that individuals in the high-income population experienced two to three times lower mortality rates when compared to the middle and low-income populations.

Individuals who have obtained higher education and income are able to procure quality health care and health information (Adler, 2003). Individuals who are better educated have the knowledge and life skills to circumvent the barriers to quality health care (Adler & Newman, 2002). These same individuals have access to new technologies that are often not offered to those in the low-income sector.
In a report released by the National Center for Health Statistics (1999) working poor Americans are uninsured because their employers often fail to provide medical coverage. The Kaiser Commission on Medicaid and the Uninsured (2003) indicated that approximately 25% of the low-income population was uninsured in 2001. Those without health insurance experience barriers to healthcare, fragmented health care, and poor quality health care.

According to the U.S. Census Bureau (2001), in comparison to 8.4 million children in 1995, 9.2 million (12.1%) children under the age of 19 were uninsured for the year 2001. Those least likely to have health insurance were teen-agers from the ages of 16-18. Data obtained from the 2001 U.S. Census Bureau revealed 1 in 4 low-income families had uninsured children.

The National Center for Health Statistics, National Health Interview Survey (2002), conveyed that individuals living in poverty (< 100% of the poverty level) report fair or poor health. Montgomery, Kiely, and Pappas (1996) theorized “children in families headed by single mothers, African American children, and those living below 150% of the poverty index were much more likely to be in poor or fair health than children in two-parent families, Caucasian children, or those in more affluent families” (p. 1401).

Borrell, Taylor, Borgnakke, Woolfolk, and Nyquist (2004) conducted an evaluation study that analyzed 1994 data to ascertain if a correlation existed between family income, socioeconomic status and the effect on general and oral health. Their findings revealed that when compared to high-income individuals in advantaged neighborhoods, Caucasians in the low-income bracket and living in disadvantaged
neighborhoods were six times more likely to rate their oral health as fair or poor; and African Americans (in the same living conditions) were three times more likely to rate their oral health as fair or poor. The impact of poverty leads to frequent reports of fair or poor health, unmet health needs and a higher risk of health problems (Newacheck, Hughes, Hung, Wong, & Stoddard, 2000).

Individuals in the low-income sector tend to seek treatment for a specific illness or injury, rather than seek medical intervention for preventive health care (Perez-Cuevas, Reyes, Pego, Tome, Ceja, Flores, & Gutierrez, 1999; and Kessler, 2003). The uninsured are more likely to use the emergency room as their source of health care.

To combat disparity in health care and promote preventive health care in the low-income sector, in recent years, health professionals have shifted their focus from the area of treatment to preventive health care. Furthermore, communities (schools, churches, and local agencies) are addressing the issue of health disparity, high mortality, and morbidity rates in the low-income sector by providing free health screenings and health education at community-based health fairs.

The objective of a community-based health fair should be to provide low-income individuals with preventive health care, health screenings, health education, increase the awareness of current health issues, promote healthy lifestyles, identify risk factors, and provide the participants with community resources (Dillon & Sternas, 1997). An additional objective for all community-based health fairs should be to promote an open-line of communication among health care providers, low-income families, and community agencies. Another objective of a community-based health fair should be to address the current health need of the targeted population. These objectives can be
achieved by assessing the targeted population, identifying their current health needs, and implementing a community-based health fair that will provide free related health screenings, health education and health-related activities.

Traditionally, community-based health fairs for the low-income adult population have included blood pressure measurement, blood studies to determine glucose and cholesterol levels. If the targeted population is low-income African Americans, a community-based health fair should provide free health screenings and health information geared toward the prevention of heart disease, hypertension, obesity, prostate cancer, and diabetes.

When children in the low-income sector are the targeted population, free health screenings, immunizations, and health-related activities should be available. Health screenings to identify dental defects, eye or vision problems, and lead poisoning should be considered. To prevent vaccine-preventable childhood diseases, free immunizations should be offered at a community-based health fair for low-income children.

Holl, Szilagyi, Rodewald, Byrd, and Weitzman (1995) stated that approximately 8.4 million children in the United States are uninsured. The lack of health insurance and financial resources were identified as the most important reason parents reported for taking a child to a community-based health fair that offers free vaccines.

A community-based health fair for children in the low-income sector affords an opportunity to teach the children and their parent/guardian about preventive health care, health maintenance, and safety issues (Hecker, 2000; Lough, 1999). Health-related hands-on activities regarding nutrition, lead poisoning, asthma education, proper
handwashing, fire safety and bike safety are valuable learning tools for both the child and parent/guardian.

Statement of Problem

Whenever a low-income family is unable to provide a child with the basic necessities, such as food, clothing, safety, and shelter, the child’s state of health can become affected (Weissbourd, 2000). When low-income families are faced with the decision of supplying basic necessities or health care, the individual usually chooses placing food on the table versus obtaining health care for themselves or their child. The inability to supply the basic necessities can place undue stress on the family. Stress and the inability to procure the basic necessities can cause a family to seek support from family members, friends, neighbors, and community agencies.

Community resources have been developed to assist low-income families with their basic necessities by offering free in-school breakfasts, lunches, and after-school care. Churches and other community agencies often sponsor clothing drives to provide free clothing to low-income individuals. To address the issue of health care disparity in the low-income and minority sector churches, schools, and community agencies have conducted community-based health fairs that target low-income individuals. Furthermore, The Ohio Commission on Minority Health encourages community agencies to sponsor community-based health fairs for the low-income and minority sector during the month of April, designated as Minority Health Month. The Ohio Commission on Minority Health provides funding and grants to community agencies that sponsor community-based health fairs during Minority Health Month.
This study evaluates the benefits received through attending a community-based health fair designed for low-income children. To determine if a community-based health fair is beneficial for low-income children, the physical examinations, dental screenings, vision screenings, immunizations, and lead screenings provided at a 2001 urban health fair will be evaluated.

Nursing Theoretical Framework

The Self-Care Deficit theory developed by Dorothea Orem (1995) is comprised of three overlapping theories: self-care theory, self-care deficit theory, and nursing systems theory. The first element of Orem’s self-care deficit theory is the self-care theory. Orem theorized that persons learn to develop practical skills and knowledge to take care of themselves and their dependents (Orem, 1995). The self-care agent is a responsible individual and capable of taking care of their own needs and the needs of their dependents. When an individual is engaged in self-care they are a self-care agent. The individual who acts on behalf of a child is engaged in dependent care. When acting on behalf of a child the individual is a dependent care agent. Dependent care is defined as “the continuing health-related personal regulatory and developmental care provided by responsible adults for infants and children or persons with disabling conditions” (Orem, 1995, p.9).

Self-care or dependent-care activities are those that allow the self-care agent to maintain a state of health for themselves and their dependents. The needs of the self-care agent or dependent will vary according to the individual’s or dependent’s age, stage of development, and state of health.
The second element of Orem’s theoretical framework is the self-care deficit theory. Orem surmised that a self-care deficit is the inability to meet one’s own self-care or dependent requisites that are required to promote well-being and maintain health. Orem defines health as humans who are physically and/or mentally sound (1995). When a deviation from the normal occurs, the individual often requires the assistance from nursing in one or all of the following areas: knowledge, skills or resources.

Orem (1995) theorized that alterations in self-care might occur when self-care limitations exist. According to Orem there are three kinds of limitations that can prevent the self-care agent from achieving a balanced state of health. The three limitations are: “restrictions of knowing, restrictions on judgments and decision making, and restrictions on result-achieving actions in either the investigative or production phases of self-care” (p. 236). When any one or more of these limitations are present, the self-care agent may not be able to maintain health. Therefore, the person may need nursing assistance.

The nursing systems theory is the third element of Orem’s self-care deficit theory. To assist the individual who has a self-care deficit, Orem developed the nursing systems theory (Orem, 2001). This theory is comprised of two areas: nursing agency and nursing systems. Nursing agency is capable of producing a complexity of interventions to assist the individual with a broad spectrum of self-care deficits. The nurse is able to assess, plan, intervene and assist the individual with meeting, diminishing, or eliminating their self-care needs.
Within the nursing systems theory, Orem (2001) defines three types of nursing systems: wholly compensatory, partly compensatory, or supportive-educative nursing system. In the wholly compensatory nursing system the nurse provides total and complete self-health care functions for the individual who is unable to perform their self-care needs. The individual is unable to mentally or physically perform their self-care needs. In other words, the individual is not only vulnerable, but also totally dependent upon the nurse to provide their everyday self-care needs.

The partly compensatory nursing system occurs when the individual is unable to completely perform his or her own self-care needs. As a result, the individual is dependent on the nurse to provide some of their daily self-care needs. The underlying reason for being partly compensatory will vary from individual to individual, however, it is still the responsibility of the nurse to assist the individual.

Within the supportive-educative nursing system the individual is able to perform their self-care needs and dependent care. However, the individual requires nursing assistance in the area of decision-making, guidance, support, or the acquisition of knowledge and skills to maintain health.

A nurse who is familiar with the challenges low-income families occasionally experience will be prepared to assist these families when there are alterations in self-care. This study will focus on the area of supportive-educative nursing systems theory. At a community-based health fair the nurse can serve as a clinician, health consultant, health educator, or as a resource while simultaneously offering support and guidance in a non-threatening environment. As a supportive educator, the nurse assists the individual with acquiring additional knowledge regarding preventive health care, health
maintenance and the necessary skills to promote a state of good health. The supportive-educative system can be used at a community-based health fair to promote changes in knowledge, health beliefs, and health practices to those in attendance. This system can also be used to instill the individual with a sense of self-fulfillment and normalcy.

**Statement of Purpose**

The purpose of this study is to evaluate the benefits children in low-income families receive from attending a community-based health fair. The availability of free health screenings at community-based health fairs can prove to be useful in identifying current health problems, providing preventive health care information, and making referrals to free or low-cost clinics in the community. Community-based health fairs may serve as a gateway to health care for a segment of the population who may not utilize a health care facility. Health fairs are a considerable investment in time, money, resources, and energy; therefore, it is imperative to ascertain the benefits participants receive when attending a community-based health fair.

**Research Question**

The research question for this study is: What benefits do children in low-income families receive from attending a community-based health fair?

**Definition of Terms**

*Children*

*Conceptual Definition:* An individual who has not reached the age of adulthood, considered to be age 18 years.
Operational Definition: Preschool and school-aged children between the ages of 3 – 18 attending the community-based health fair.

Families

Conceptual Definition: A group of people who create a set of relationships to ensure that their own and their loved ones’ daily needs are met, especially those of children. People related by marriage, blood or emotional commitment who help each other with respect to subsistence and emotional needs, and those of children (www.usfca.edu/fac-staff/climenhage/famdefn.html).

Operational Definition: A family unit is defined as individuals who state they are related, living in the same household.

Low-income

Conceptual Definition: Low income is defined according to the United States Department of Health and Human Services 2001 poverty guidelines (see table).

Table 1.1 2001 Health & Human Services Poverty Guidelines

<table>
<thead>
<tr>
<th>Size of Family Unit</th>
<th>48 Contiguous States and D.C.</th>
<th>Alaska</th>
<th>Hawaii</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$ 8,590</td>
<td>$10,730</td>
<td>$ 9,890</td>
</tr>
<tr>
<td>2</td>
<td>11,610</td>
<td>14,510</td>
<td>13,360</td>
</tr>
<tr>
<td>3</td>
<td>14,630</td>
<td>18,290</td>
<td>16,830</td>
</tr>
<tr>
<td>4</td>
<td>17,650</td>
<td>22,070</td>
<td>20,300</td>
</tr>
<tr>
<td>5</td>
<td>20,670</td>
<td>25,850</td>
<td>23,770</td>
</tr>
<tr>
<td>6</td>
<td>23,690</td>
<td>29,630</td>
<td>27,240</td>
</tr>
<tr>
<td>7</td>
<td>26,710</td>
<td>33,410</td>
<td>30,710</td>
</tr>
<tr>
<td>8</td>
<td>29,730</td>
<td>37,190</td>
<td>34,180</td>
</tr>
<tr>
<td>For each additional person, add</td>
<td>3,020</td>
<td>3,780</td>
<td>3,470</td>
</tr>
</tbody>
</table>

Operational Definition: Families attending a community-based health fair living at or below the poverty level.

Definition of Terms for the Community-based Health Fair

Health Examinations and Screenings: Preventive Care

Conceptual Definition: Preventing or slowing the course of an illness or disease; prophylactic (The American Heritage® Stedman's Medical Dictionary, 2002).

Operational Definition: Verbal instructions given to the parent/guardian and child who attended the community-based health fair regarding the importance of preventive health care (annual physical examination, bi-annual dental examinations, fluoride treatment, and dental cleaning, and routine eye examinations).

Health Examinations and Screenings: Follow-up Care

Conceptual Definition: Intended to follow up, as to reinforce or evaluate previous action (The American Heritage® Dictionary of the English Language, 2000).

Operational Definition ~ Physical Examinations and Vision Screening: Verbal instructions given to the parent/guardian and child who attended the community-based health fair to follow-up on a pre-existing condition or to have their health care provider evaluate a condition discovered at the health fair.

Operational Definition ~ Dental Screening: Verbal instructions given to the
parent/guardian and child who attended the community-based health fair received verbal instructions to contact a dentist and schedule an appointment for treatment of caries, dental examination, fluoride treatment, and dental cleaning.

**Health Examinations and Screenings: Referral**

**Conceptual Definition:** The process of directing or redirecting (a patient) to an appropriate specialist or agency for definitive treatment (Merriam-Webster Medical Dictionary, 2002).

**Operational Definition ~ Physical Examinations:** Verbal instructions given to the parent/guardian to take the child directly to the emergency department for an acute condition (e.g. asthma exacerbation or elevated blood pressure).

**Operational Definition ~ Vision Screening:** Verbal instructions given to the parent/guardian to take the child to a pediatric ophthalmologist for a complete eye examination or required further diagnostic testing.

**Operational Definition ~ Dental Screenings:** Verbal instructions given to the parent/guardian and child who attended the community-based health fair to contact a dentist immediately related to extensive dental caries that were discovered at the health fair. If the family did not have a dentist they were provided with a written list of dentists who accepted Medicaid or provided low-cost dental services.

**Significance**

Individuals who are uninsured tend not to seek needed health care. Depending on the illness the delay in seeking health care can result in the premature death of the
individual (Lavizzo-Mourney & Knickman, 2003). When uninsured individuals delay medical treatment or fail to procure preventive health screenings they are twice as likely to die when compared to those who have health insurance. Uninsured women in the low-income sector tend to die at an earlier age and at a higher rate then women with insurance. Men in the low-income sector without insurance are 50% more likely to be diagnosed with colon cancer when compared to men with health insurance.

Children without insurance are at a greater risk for developing vaccine-preventable childhood diseases due to no immunizations, delayed immunizations, or incomplete immunization status (U.S. Department of Health and Human Services, 2000, Healthy People, 2010). An objective of Healthy People 2010 is to increase the percentage of children aged 19 – 35 months who receive all recommended vaccines to 90%. In 2000, The Ohio Department of Health stated the following cities: Akron, Canton, Cincinnati, Cleveland, Columbus, Dayton, Toledo, and Youngstown had only between 53 to 63% completed immunization rates for their 2 year olds. For the year of 2002, the state of Ohio had an overall immunization rate of 75% for children aged 19 to 35 months who had received all the recommended vaccines. Even though, this was a 10% increase from 1995 (62%), Ohio ranked in the lower percentile (34th) among the 50 states (Ohio Department of Health, 2004).

The study of community-based health fairs for children in the low-income sector will add to the knowledge, theory, and practice of nursing. Research in this area will benefit nurses who work with low-income and vulnerable populations.

The implication for nursing at community-based health fairs is vast. Nurses who are knowledgeable regarding the challenges low-income families face will make
informed decisions about how to design a health fair for this population. Thus, they will be able to promote preventive health care in an effective manner, ultimately, reducing the morbidity and mortality rate in the low-income population.

While attending a community-based health fair nurses can network with others, thereby, obtaining new resources and services for their clients. Community-based health fairs can provide an excellent opportunity for nurses to present health fair attendees with preventive healthcare. Nurses can also provide the individuals with current up-to-date health information. Nurses who participate in community-based health fairs not only can promote changes in knowledge, health practices, and beliefs, but nurses themselves will develop an increased awareness of community problems, health practices, and health beliefs (Dillon & Sternas, 1997).

Nurses can also provide preventive health care through the offering of free health screenings. In order to curtail the mortality and morbidity rate that occurs in low-income families it is essential for nurses to promote preventive health care at community-based health fairs. Early identification and referrals for prompt treatment of health conditions can reduce the cost of health care, reduce hospitalization, and decrease the mortality and morbidity in the low-income sector (Bean & Hutchinson, 1996). A well-designed community-based health fair should meet the health needs of the low-income sector.

Assumption

The only assumption for this study is that children in low-income families benefit from attending community-based health fairs.
Summary

This chapter introduced the problem and purpose of this research study, that of exploring if community-based health fairs meet the health care needs of children in low-income families. The study considered the possibility that community-based health fairs can meet health care needs and promote changes in how low-income families think about preventive health care. The implications for nursing practice were discussed in relation to increasing the nurses' awareness of the health issues facing low-income families.
CHAPTER II

Theoretical Framework and Literature Review

This chapter presents the theoretical framework used to guide this study and the review of literature relevant to the benefits individuals in the low-income sector receive from attending community-based health fairs. The Self-Care Deficit theory developed by Dorothea Orem is explored in relationship to assisting children in the low-income sector. The remainder of this chapter will concentrate on the review of literature. Included in the review of literature is a discussion regarding the health issues in the low-income sector and community-based health fairs.

Nursing Theoretical Framework

Orem’s theory (2001) is based on the foundation of self-care. She defines self-care as “the personal care that individuals require each day to regulate their own functioning and development” (Orem, 2001, p.20). The fundamental goal of Orem’s theoretical framework is for the individual to achieve the optimal level of self-care. When an individual is unable to maintain a state of health nursing intervention is required to assist the individual with achieving and maintaining the optimal level of self-care.

According to Orem, health is the state in which individuals are whole. A deficit occurs when an individual is unable to maintain self-care. Orem (2001) states “with children it is the inability of the parent/guardian to provide the amount and quality of care required by their child because of their child’s health situation” (p.20). There are a multitude of reasons that can be attributed. The deficit can be attributed to the parent/guardian’s lack of knowledge, decision-making or judgment skills or time-
management. Other reasons for deficits include family values, inadequate health services, insufficient financial resources, or health insurance. The parent/guardian’s value system can be different from the nurse’s value system. When conflicts occur, the parent/guardian may not be willing to act on behalf of the child. For example, there are instances when the parent/guardian will feel certain health care is unnecessary or will view certain procedures as an invasion of privacy. If the parent/guardian attends a community-based health fair, the nurse can provide support, leadership, and guidance to the parent or guardian. The benefit of a nurse at a community-based health fair is multi-faceted. The nurse can serve as a health educator, health care provider, and / or community resource for low-income families.

At community-based health fairs for children in the low-income sector the nurse provides supportive-educative care. As a supportive-educator the nurse promotes and enhances the parent/guardian level of knowledge regarding preventive health care, including the importance of taking their preschooler or school-aged child to a health care provider for an annual physical examination, bi-annual dental examinations, fluoride treatment, dental cleanings, and routine vision examinations. The childhood immunization schedule can be reviewed with the parent/guardian thus providing the opportunity for the nurse to discuss vaccine-preventable diseases.

Figure 2.1 illustrates the nurse utilizing Orem’s Theory of Self-Care Deficit to provide supportive-educative nursing care at a community-based health fair. At a community-based health fair designed to meet the needs of children, the nurse is aware the parent/guardian may lack knowledge regarding health issues, have inadequate resources (finances, transportation, or health insurance), or may be unable to receive
health care for their child. At a community-based health fair the nurse intervenes to assist the parent/guardian with procuring and maintaining an optimal level of self-care.

In the theory of self-care the individual is able to perform their own self-care and the care of their dependents. When a self-care deficit occurs the individual is unable to maintain or promote their own or dependent well-being. Depending on the self-care deficit that exists the nurse may utilize one or all three nursing systems to meet the individual’s self-care need.

As a supportive-educator the nurse is aware the child has self-care requisites and deficits. The nurse is also cognizant that the family is the dependent care agent.

Figure 2.1 Overview of the interrelationship between the Dependent Care Agency, Supportive-educative nursing system, and Improved Child Health.

Dependent Care Agent
(Parent/guardian of Children 3-18 years old)

+ Lack of quality health care
   Lack of health insurance
   Lack of resources (knowledge, transportation, skills, or finances)

Supportive-Educative Nursing System
With communication and organizational skills
(Nurse Clinician, Nurse Consultant, Nurse Educator, Nurse Researcher, Student Nurses)

Community-based Health Fair
Health Resources:
- Physical Examination
- Dental Screening
- Vision Screening
- Immunizations
- Lead Screening

Improved Child Health

Increased Child Well-being
Increased Dependent-Care Agency
Literature Review

Low-income

Research studies supporting the association between income inequality and health outcomes have been written since 1992 (Subramanian, Blakely, & Kawachi, 2003). Social factors, such as socio-economic status and level of education can have an impact on the health or healthcare of the individual. Healthcare disparities often lead to significant health issues such as, hypertension, heart disease, and vaccine preventable diseases.


Kahn, Wise, Kennedy, and Kawachi (2000) concluded that low-income women have a higher risk of post-partum depressive symptoms. Data was collected regarding depression and self-reported health status, from 89% of 8060 women who gave birth in 1988. Depression scores were compared for women who had the highest 5\textsuperscript{th} distribution of household income with women in the lowest 5\textsuperscript{th} distribution of household income. The results revealed a higher percentage of depressive symptoms in the women from the lowest income sector. The women in the lowest 5\textsuperscript{th} distribution rated their overall state of health to be fair to poor.

In contrast, when regional variations in health outcomes are controlled, Mellor and Milyo (2003) found no evidence that income level was detrimental to individual’s
health. Using income levels provided by census data for a sample of about 62,000 adults between the age 25 and 74, about 14% of all subjects reported fair to poor health. There were also no statistical differences between income levels and long-term health outcomes when controlling for regional variations in reported health conditions.

**Obesity and Health**

According to *Healthy People 2010* (US Dept. of Heath and Human Services, 2000) over 50% of the adults in the United States are obese. In a research study performed by Kayrooz, Moy, Yanek, and Becker (1998) the body mass index (BMI) of 521 African American families from churches in East Baltimore, Maryland were examined. Using the National Institute of Health BMI guidelines ($\geq 27.3$) approximately 61% of the participants were identified as being obese. The mean age of the participants was 45 years with a minimum age of 18 and maximum age of 91. Eight-two percent had completed high school and 70.1% were employed full-time or part-time.

The results of the Kayrooz, et. al (1998) obesity study is significant due to obesity in the low-income African American community as well as to the growing concern regarding obesity in children from low-income families. Obesity in adolescents from low-income families is two times greater than adolescents from middle and high-income families. Obesity can be a precursor to hypertension, cardiovascular disease, and diabetes. A higher body weight can lead to a higher mortality and morbidity rate. Obesity is prevalent among women in the low-income sector and especially among African American and Mexican American women.

The National Health and Nutrition Examination Survey (NHANES) for the years 1999 – 2002 revealed approximately 16% (over 9 million) children and adolescents
between the ages of 6-19 years are overweight (U.S. Department of Health and Human Services, CDC, 1999-2002). To determine the BMI of children and adolescents their weight and height are plotted on a sex-specific BMI growth chart. If a child or adolescent BMI is at or above the 95th percentile they are categorized as overweight. The survey also discovered an additional 15% of children and adolescents in the survey are between the 85th and 95th percentile and, therefore, are at risk of being overweight. The information obtained from the NHANES is important because the data indicates adolescents who are overweight are at risk for becoming an overweight adult. The findings also suggest the emergence of another era of overweight adults. Consequently, the adolescents will become adults who are at risk for developing obesity health related illnesses; including heart diseases, hypertension, and diabetes.

The NHANES research revealed similar findings regarding obesity among African American and Mexican American children. The 1999-2002 data revealed approximately 22% of Mexican American children between the age of 6-11 years old was 2% more likely to become overweight when compared to African American children (20%). Mexican American children have an 8% propensity for being overweight when compared to Caucasians. On the other hand, 21% of African American children and 23% of Mexican American adolescents between the ages of 12-19 have a high risk of becoming overweight when compared to Caucasian adolescents (14%).

In a similar study conducted by Harrell and Gore (1998) data was obtained from 1,945 women who lived in 18 different regions of North Carolina. African American women accounted for 20.1% of the participants and Caucasian women for the remaining 79.9%. The average age was 34.4 with a standard deviation of ± 5.0. The
study was a self-reported study that revealed obesity was three times higher in African American women in the low-income and middle-income sector when compared to African American women in the higher income sector. Harrell and Gore also discovered Caucasian women in the low-income sector had a greater propensity for obesity.

**Health Fairs**

Bean and Hutchinson (1996) state that health fairs are a cost-effective and efficient means to promote health in the underserved population. At a community-based health fair, health screenings can be geared toward illnesses associated with the low-income sector. Free health screenings can also be used to identify risk factors in healthy individuals and as a means to identify high-risk individuals. Once identified, high-risk individuals can be referred to a health care provider in the community for follow-up care.

**Health Fairs and Dentistry**

Preventive health care is another area of importance that can be addressed at a community-based health fair. Macias and Morales (2000) developed a bi-lingual survey to obtain information regarding the socio-demographics, health insurance coverage, self-reported health status, and access to medical care regarding the American Hispanic population in Lennox, California. The study surveyed 70 Hispanic adults who attended a health fair in South Los Angeles County. The sample group of those who participated in the survey was 81% female with 97% foreign-born (primarily from Mexico). The mean age of the sample group was 33 years old. Overall, 58% of the participants stated they needed medical attention, but did not seek any health care. The same participants also reported the greatest barrier to procuring health care was
the cost. When the issue of insurance was addressed 68 participants responded and of those 79% reported they were uninsured.

Dental caries is considered to be a major health problem in children from the low-income sector (Tang, Altman, Robertson, O'Sullivan, 1997). To arrive at this conclusion Tang, et al., screened 5171 Arizona children between the ages of 5 months – 4 years of age during 1994-1995. The children in the research study were recruited from health fairs, Head Start programs and WIC programs that primarily served low-income families. To balance the socio-economic sample, middle-income families who attended private day care centers were included in the survey. To prevent the data from being skewed Native American reservations with high caries prevalence were excluded.

Of the 5171 children examined, 1274 (24.6%) were 3 years old and 1539 (29.8%) were 4 years old. Tang, et al., discovered caries in 447 (30%) 3 year olds and 753 (49%) 4 year olds. The researchers also discovered that both the 3 year olds and 4 year olds had dental caries (60% and 65%, respectively) in their molars.

The ethnic background for the 5171 children screened was 4.4% Native American, 6.5% African American, 48.2% Hispanic American, and 34.6% Caucasian. The ethnic background of the remaining 6.4% was listed as unknown or other. Forty percent were from households with an annual income less than $10,000. The data revealed only 12-13% of the children in the study had seen a dentist. The results of the survey revealed 4–13% of the 13–24 month old children and 17-25% of the 25-36 month old children had dental caries.

Similarly, Douglass, Tinanoff, Tang, and Altman (2001) concluded that dental caries is a significant health issue for low-income families. The American Academy of
Pediatric Dentistry recommends children visit a dentist after the eruption of their first tooth or at least by the age of one. In contrast, The American Academy of Pediatrics recommends children see a dentist on or after their 3rd birthday. Children who receive Medicaid benefits are ineligible to receive dental coverage until their 3rd birthday. Therefore, little to no dental care is provided for children between the ages of 6 months (age of 1st tooth eruption) and 3 years of age.

Due to the lack of dental care for infants and toddlers, dental screenings at a community-based health fair for pre-school and school-age children is essential and provides an avenue for early intervention. Children who receive early and prompt treatment feel better mentally and physically. Early detection of dental defects can lead to the avoidance of poor self-esteem, speech impediments, expensive emergency room visits, and malnutrition. Dental screenings at a community-based health fair provides an opportunity to educate the parent/guardian and child regarding the importance of routine and correct oral hygiene care.

Health Fairs and Vision

Learning difficulties and behavioral problems in school are often attributed to a child's vision. If a child is performing poorly or behaving inappropriately at school the teacher or pediatrician often will refer the parent to an ophthalmologist or optometrist to rule out any vision problems (Koller, 1999). Vision impairment can interfere with the child’s psychological, social, and emotional development (Levine, 1984). Therefore, early identification of vision impairment is imperative and can prevent the child from developing a poor peer relationships, poor self-esteem, and a decreased motivation to learn.
A vision screening at a community-based health fair for school-aged children in the low-income sector is essential to assist with the identification of children who are in need of an eye examination and refer children who require further diagnostic testing (Ellish & Higginbotham, 2000). Providing vision screenings at a community-based health fair is ultimately protects children in the low-income sector.

In conclusion, community health fairs may also serve as a gateway to health care for a segment of the population who may not utilize a health care facility. The availability of free health screenings at community health fairs can prove to be useful to screen for diseases, provide preventive health care literature, and referrals to free or low-cost clinics in the community.

Summary

This chapter included the use of Orem’s theoretical framework and an examination of the literature that explores the benefits low-income families receive from attending community-based health fairs and health care in low-income families. Community-based health fairs may serve as a gateway to health care for a segment of the population who may not utilize a health care facility.

The availability of free screenings at community-based health fairs can prove to be useful to identify children with health problems early, provide preventive health care information, including health education, and referrals to free or low cost clinics in the community. Individuals from low-income families who attend community-based health fairs can learn methods to modify lifestyles, become knowledgeable regarding potential health risks, and the effect healthy lifestyle can have on the prevention of various diseases and health problems (Dillon & Sternas, 1997).
CHAPTER III

Methodology

The purpose of this study was to evaluate if a community-based health fair benefited children in low-income families. In this chapter, the research methodology is presented. The design, participants, material, data collection, data analysis and summary are included. Specific aspects of the design, setting, instruments, and data collection process used in this study are described.

Design

The study is a program evaluation using the descriptive research design method. The intent of the study was to evaluate the benefits children in low-income families receive from attending a community-based health fair.

Participants

The participants for this study were recruited using a convenience sampling method from the population attending a community-based health fair at an urban community YMCA center in 2001. The target population of interest was children from low-income families between the ages of 3 and 18 years who attended the community-based health fair. The sample participant group included children from low-income families whose parent/guardian was willing to participate. The only requirement was that the parent/guardian provide consent for the child to participate in the free health screenings (physical examinations, dental screenings, vision screenings, lead screenings, and immunizations), health education, and hands-on health-related activities (for example, fire safety, food pyramid, and asthma education) throughout the fair.
Materials - Data Collection

As the parent/guardian, who accompanied the child, entered the health fair they were asked to sign consent to receive free health screenings and participate in the free health-related activities. The consent form included demographic information, which consisted of the child’s age, gender, ethnic background, socio-economic status, and the number of individuals (children and adults) in the household.

A health recorder obtained information throughout each of the health screenings. The information obtained regarded the preventive, follow-up, urgent care needed, and referrals that were advised. Upon entrance into the health fair the parent/guardian was informed that it was essential to follow-up on all abnormal findings. A nurse educator was at each health screening station. The health educator emphasized the importance of establishing and/or maintaining an on-going relationship with a health care provider in the community. The parent/guardian was advised regarding the importance of an annual physical examination, bi-annual dental care, and routine vision examinations. A community resource agency was available on-site to assist those families with procuring federal health insurance coverage.

Permission was granted by the local public school board to publicize the health fair to school-aged children and for each student to take a flyer home to their parent/guardian. Other forms of advertisement included, distribution of flyers to the local Head Start program, pediatric clinics, churches, barbershops, beauty salons, and convenient stores in the area surrounding the community YMCA. All local newspapers, radio stations and TV stations were contacted to advertise the event as a public service announcement.
A free healthy lunch was provided for everyone in attendance (including adults). To emphasize the importance of exercise, obesity, and healthy eating the W.I.C. department from a local hospital had a health booth at the community-based health fair. While visiting the W.I.C. health booth the children received free healthy snacks and participated in hands-on nutritional activities. The parent/guardian received nutritional information, literature and easy nutritional recipes.

To assist the children in visiting all of the free health screenings, upon registration, the parent/guardian received a health fair bingo card (see Appendix A), for each pre-school and school-aged child. After the child and their parent/guardian visited the health screening station or health booth their bingo card was stamped. The parent/guardian could opt to forego any free health screening for their child, but according to the data received, the only health screening in which the parent/guardian opted to forego was the vision screening.

After child and parent/guardian had visited all of the health screening stations and health booths the child and their parent/guardian presented the completed bingo card to the check-out station. In exchange for the completed card, the parents and child received free age-appropriate school supplies and an educational book.

Even if the child did not partake in the free health screening they still were requested to visit the health screening station to get their health fair bingo card stamped. In addition, the nurse educator at the health screening station provided the child and their parent/guardian with health information that correlated to the health station.
There were fifteen health booths designed to address the issue of childhood health issues, including health information on diabetes, asthma education, lead poisoning, bicycle safety, and poison prevention. All participating agencies were encouraged to provide hands-on related activities and free school supplies.

The neighborhood fire station brought one of their fire trucks to the community-based health fair. An ambulance company brought an ambulance for the children to explore. While the children were on the emergency vehicles they were permitted to turn on the sirens and lights. The ambulance, fire and rescue personnel discussed safety issues with the children and their parent/guardian. Additionally, the ambulance personnel provided a wheelchair and crutches and instructed the children regarding proper usage if injured or handicapped.

The local police department was present and discussed bicycle safety with the children and had a drawing for several bicycle helmets. The police department also had a drawing for the parents to receive free fire detectors.

The “Learn Not to Burn” program from a local hospital brought an educational house for the children to explore. The children learned about fire safety, establishing a fire escape route, and home safety tips. To help reinforce what they learned each child received a fire safety coloring book.

Protection of Human Subjects

Approval for evaluating the data was obtained from the Medical College of Ohio Institutional Review Board. This evaluation posed minimal risk to the human participants since only the program coordinator had the identifying information, which was removed for data analysis.
Informed Consent

Completion of the consent form was considered an agreement to participate in the health fair. Prior to completion of the consent form participants were given written and verbal instruction regarding the purpose for the information which was gathered. The data to be collected was described for the participants. The participants were informed that confidentiality of the information would be maintained.

Data Analysis

Descriptive statistics were used to summarize demographic data such as age, gender, ethnic background, and socio-economic status. Information related to the physical examinations, dental, and vision screenings pertained to number of times that preventive care was given, number of recommendations for follow-up care and referrals, and number of times that urgent care was needed. Number of immunizations and lead screenings provided were summarized.

Summary

This chapter of the research study presented the methods to be used in this descriptive study. The study design, setting, subjects, sample selection, data collection, and data analysis were described. Measures taken to provide for the human rights of subjects, confidentially of subject information, and provision of informed consent were discussed.
CHAPTER IV

Results

The purpose of this program evaluation is to evaluate the benefits children in low-income families receive from attending a community-based health fair. This evaluation research project analyzed the data that was obtained from a community-based health fair that was held in Northwestern Ohio at an urban community YMCA in 2001. The only requirement for attendance at the health fair was for all children to be accompanied by their parent/guardian.

This chapter includes a description of the sample population and the health services they received. The chapter concludes with a summary of the findings that were obtained from the research evaluation.

Sample Profile

This research evaluation was based on 596 preschoolers and school-aged children who attended the community-based health fair. All children in attendance were accompanied by a parent/guardian. The target age group for the health fair was preschool and school-aged children between the ages of 3 – 18 years old.

Gender ~ Age. Of the 596 children who attended the health fair, there were approximately an equal proportion of female (n = 295, 49.5%) and male (n = 301, 50.5%) participants who attended the health fair. The children's ages ranged from 3 to 18 years as shown in Table 4.1. The mean age was 7.68 (SD=3.46)
TABLE 4.1 AGE ~ GENDER OF CHILDREN (N=596)

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>76</td>
<td>12.8</td>
</tr>
<tr>
<td>4</td>
<td>65</td>
<td>10.9</td>
</tr>
<tr>
<td>5</td>
<td>58</td>
<td>9.7</td>
</tr>
<tr>
<td>6</td>
<td>53</td>
<td>8.9</td>
</tr>
<tr>
<td>7</td>
<td>54</td>
<td>9.1</td>
</tr>
<tr>
<td>8</td>
<td>48</td>
<td>8.1</td>
</tr>
<tr>
<td>9</td>
<td>52</td>
<td>8.7</td>
</tr>
<tr>
<td>10</td>
<td>50</td>
<td>8.4</td>
</tr>
<tr>
<td>11</td>
<td>45</td>
<td>7.6</td>
</tr>
<tr>
<td>12</td>
<td>37</td>
<td>6.2</td>
</tr>
<tr>
<td>13</td>
<td>32</td>
<td>5.4</td>
</tr>
<tr>
<td>14</td>
<td>11</td>
<td>1.8</td>
</tr>
<tr>
<td>15</td>
<td>5</td>
<td>0.8</td>
</tr>
<tr>
<td>16</td>
<td>4</td>
<td>0.7</td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>0.7</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>0.3</td>
</tr>
</tbody>
</table>

**Household Composition:** Approximately 58% of the children in attendance were from single-parent homes. Thirty-six percent of the children had 2 adults present in their home and the remaining 7% had 3 or more adults present in the home (see Table 4.2).
### TABLE 4.2  HOUSEHOLD COMPOSITION (N=596)

<table>
<thead>
<tr>
<th>Number of Adults</th>
<th>Number in sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>344</td>
<td>57.7</td>
</tr>
<tr>
<td>2</td>
<td>212</td>
<td>35.6</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>5.9</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>0.7</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Children</th>
<th>Number in sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>91</td>
<td>15.3</td>
</tr>
<tr>
<td>2</td>
<td>118</td>
<td>19.8</td>
</tr>
<tr>
<td>3</td>
<td>175</td>
<td>29.4</td>
</tr>
<tr>
<td>4</td>
<td>92</td>
<td>15.4</td>
</tr>
<tr>
<td>5</td>
<td>51</td>
<td>8.6</td>
</tr>
<tr>
<td>6</td>
<td>33</td>
<td>5.5</td>
</tr>
<tr>
<td>7</td>
<td>24</td>
<td>4.0</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Annual Household Income.** As shown Table 4.3, a small percentage (21%) of the children who attended the health fair had an annual household income above $15,000. The remaining 79% of the children were from families with an annual household income under $15,000.

### TABLE 4.3  ANNUAL HOUSEHOLD INCOME (N=593)

<table>
<thead>
<tr>
<th>Household Income</th>
<th>number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-$5,000</td>
<td>214</td>
<td>35.9</td>
</tr>
<tr>
<td>$5,000-10,000</td>
<td>98</td>
<td>16.4</td>
</tr>
<tr>
<td>$10,000-15,000</td>
<td>159</td>
<td>26.7</td>
</tr>
<tr>
<td>$15,000-20,000</td>
<td>25</td>
<td>4.2</td>
</tr>
<tr>
<td>$20,000-30,000</td>
<td>57</td>
<td>9.6</td>
</tr>
<tr>
<td>$30,000+</td>
<td>40</td>
<td>6.7</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>0.5</td>
</tr>
</tbody>
</table>
Ethnicity. As seen in Table 4.4, the ethnic composition of the children who attended the community-based health fair was primarily African American (n = 492, 82.6%). Approximately 10% of the children at the health fair were Caucasian (n = 58, 9.7%). Among the Latino and Hispanic American children 18 (3.0%) were Mexican American and 1 (0.2) was Puerto Rican. The remaining self-reported ethnicity of the children who attended the health fair was Arab (n = 4, 0.7%), and Bi-racial (n = 23, 3.9%).

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>492</td>
<td>82.6</td>
</tr>
<tr>
<td>Caucasian</td>
<td>58</td>
<td>9.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Bi-racial</td>
<td>23</td>
<td>3.9</td>
</tr>
<tr>
<td>Arab</td>
<td>4</td>
<td>0.7</td>
</tr>
<tr>
<td>Puerto Rican +</td>
<td>1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Results

Physical Examinations

All of the children took advantage of the opportunity to receive the free physical examinations (see Table 4.4). Several of the parents / guardians who accompanied their child to the health fair stated that the purpose for coming to the health fair was to receive a physical examination for their child.
The majority of the preschoolers who attended the community-based health fair requested to receive a physical examination for entrance into Head Start. The five year olds requested a physical examination for entrance into kindergarten. Many of the elementary, junior high, and high school students requested to receive a sports physical.

Two hundred sixty-four children (44.3%) were instructed regarding the need for follow-up care for a pre-existing condition or for a health concern that was identified. Three children were referred to the emergency room for urgent care. One of the three children was referred for urgent care related to an asthma exacerbation. A second child was referred due to having an elevated blood pressure. The third child was referred to the emergency room by the physician who examined the child.

**Dental Screenings**

As demonstrated in Table 4.5, all of the children who attended the health fair participated in the free dental screenings. The child and their parent/guardian received instructions regarding the importance of preventive dental care (dental hygiene care, bi-annual dental examinations, fluoride treatment, and dental cleanings).

A total of 388 dental problems were identified, of which, 336 children had minor dental caries and / or poor dental hygiene and required follow-up with a dentist for treatment, fluoride treatment, and dental cleaning. Twenty-eight children needed to see a dentist immediately for treatment due to extensive dental caries, oral infection, or broken teeth. They also required routine dental cleaning. Thirteen children required treatment for minor caries, dental cleaning, and a referral to an orthodontist. The remaining 11 children only required a recommendation to follow-up with an orthodontist
and to continue with their preventive dental care. Out of the 596 children screened only eleven (1.8%) of the children received routine preventive dental examinations and cleanings.

**TABLE 4.6  DENTAL SCREENINGS (N=596)**

<table>
<thead>
<tr>
<th>Dental Screenings</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventive Dental Care</td>
<td>208</td>
<td>34.9</td>
</tr>
<tr>
<td>Preventive Dental Care and Follow-up Care</td>
<td>336</td>
<td>56.4</td>
</tr>
<tr>
<td>Preventive Dental Care, Follow-up Care and Urgent Care Referral</td>
<td>28</td>
<td>4.7</td>
</tr>
<tr>
<td>Preventive Dental Care Follow-up Care, and Orthodontic Referral</td>
<td>11</td>
<td>2.2</td>
</tr>
<tr>
<td>Preventive Dental Care And Orthodontic Referral</td>
<td>3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

**Vision Screenings**

A total of 569 children participated in the vision screening. As demonstrated in Table 4.6, over 77% (n = 460) only required routine preventive eye care. Whereas, eight children required follow-up for minor eye or vision problems. One-fourth (n = 101) of the children were instructed to follow-up for full eye examinations due to either failing their vision acuity, muscle balance, and or color blindness screening. There were 27 children whose parent/guardian opted to forego the vision screening.
TABLE 4.7  VISION SCREENINGS (N=569)

<table>
<thead>
<tr>
<th>Vision Screenings</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventive Vision Care</td>
<td>460</td>
<td>77.2</td>
</tr>
<tr>
<td>Preventive Vision Care, And Follow-up Care</td>
<td>8</td>
<td>1.3</td>
</tr>
<tr>
<td>Preventive Vision Care and Referral for Eye examination</td>
<td>101</td>
<td>16.7</td>
</tr>
<tr>
<td>Missing</td>
<td>27</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Immunizations and Lead Screenings

Free immunizations were available for all children. All children were screened to determine if they were immunized appropriate for age. A total of 54 children received between an average of 3-4 vaccines. The Toledo Health Department provided approximately 186 vaccines to 54 children.

A total of 95 children were screened for lead poisoning. Eleven children were found to have low lead level exposure (7.2 – 10 µg/dL range). Seven children had a lead level between 10.1 – 22.0 µg/dL. The Toledo Health Department conducted the lead screening and provided follow-up instructions and follow-up care for children with elevated lead levels.

Summary

This chapter included a presentation of the data of the children who attended a health fair. The children were between the ages of 3 and 18 years and received physicals, vision and dental screenings, immunizations, screenings for lead poisoning, and health information.
CHAPTER V

Discussion

Evaluating the benefits of a community-based health fair is imperative in enabling the nurse to develop community-based health fairs that address current health issues for children in the low-income sector. The identification of the dependent care deficits provides the focus for program planning (Hecker, 2000). The community-based health fair was designed to meet the dependent’s self-care deficit related to being able to receive quality and convenient health care services in a central location. Nurse practitioners, physicians, residents, and medical students provided the physical examinations. The children received dental screenings from local dentists. A local pediatric ophthalmologist provided vision screenings. The local health department provided the immunizations and lead screenings.

This chapter presents the discussion of the results of the program evaluation with consideration of the theoretical framework and related literature review. Conclusions are made from the research findings as well as a discussion of the research limitations. Implications for nursing practice and recommendations for future research will be explored.

Findings

The availability of all of the health screenings in one location enabled the parent/guardian to receive the needed services in an efficient manner. If transportation or time was an issue for the parent/guardian the health fair provided them with a convenient manner in which to receive quality health services for their child. To
facilitate transportation, the local community YMCA that hosted the health fair provided transportation for any family that requested transportation.

If a health care provider identified a health concern, the child and parent/guardian received verbal instructions to follow-up with the child’s health care provider. If the child did not have a health care provider, dentist, or eye doctor the child's parent/guardian was provided with a written list of health care providers who offered free or low-cost services.

Results from the current study for physical screenings identified that approximately 44% were instructed regarding the need for follow-up care for a pre-existing condition or for a health concern that was identified while three of the children were referred to the emergency room for urgent care. The parent/guardian cited the lack of insurance, inconvenient office hours, no transportation and the convenience of having all of the health services, including immunizations conveniently located at one location as a reason for bringing their child to the health fair. The parent/guardian also remarked that they did not mind the long lines or having to wait to see a health care provider because if they went anywhere else they would have to wait. Many parents/guardians stated most health care providers will only permit them to bring two children at a time to be seen, whereas, at the health fair all of their children could be seen. This was a time-saver for many of the children and their parent/guardian. Similarly, Macias and Morales (2000) found that 58% of the participants of their health fair stated they needed medical attention, but did not seek any health care with the greatest barrier to procuring health care being the cost.
The low-income sector are experiencing poor dental health in astronomical numbers. The dental findings from the current study indicated that 336 of the 596 (56%) children had dental caries with 28 of these children needing immediate dental follow-up due to extensive caries, infection or broken teeth are congruent with the past research. For example, Tang, et al. (1997) stated that dental caries among children in the low-income sector is a major health issue. The U. S. Surgeon General states that children in the low-income sector are twice as likely to suffer from dental caries when compared to the middle to high-income children. The Caring Foundation for Children (2003) states that when child have good oral health the child’s self-esteem, school attendance, and speech development is improved. The importance of dental screenings at a community-based health fair for children in the low-income sector is imperative to the child’s quality of life.

The vision screenings of the current study identified approximately 25% of the children (101 of 569 screened) should have follow-up examinations due to failing vision acuity, muscle balance or color blindness. This data is congruent with that of Ellish and Higginbotham’s (2000) suggestions that vision screenings should be conducted to identify children in the low-income sector who are in need of an eye examination. Vision impairment can interfere with the child’s psychological, social, and emotional development (Levine, 1984). Early detection of eye or vision problems can have a great impact on a child’s reading ability, school achievement, and self-esteem.

The current study found that 95 children received screenings for lead poisoning and 11 children were found to have low lead level exposure (7.2 – 10 µg/dL range). Seven children had a lead level between 10.1 – 22.0 µg/dL. The children with elevated
lead levels received follow-up care from the Toledo Health Department. The Toledo Health Department or the child’s primary care provider provided treatment.

The Centers for Disease Control and Prevention have estimated that approximately 434,000 (2.2%) of the children between the age 1-5 years old have a blood lead level greater than 10 µg/dL, according to NHANES 1999-2000. Dust contaminated with lead and lead-based paint is the primary source of lead exposure. Since lead-based paint was banned in 1978 the primary source is lead-contaminated dust that is found in old housing units. These housing units are also the main source of deteriorated lead paint.

Lead poisoning can cause irreversible damage to a child’s health. Lead poisoning can cause developmental delays, decreased mental status, impaired hearing, convulsions and death. Children under the age of 6, living in older housing dwelling, and living at or below poverty are at greater risk for acquiring lead poisoning. Canfield, Gendle, and Cory-Slechta (2004) conducted a research study of 174 (5 year old) children with an average blood lead level of 7.2µg/dL. The researchers concluded that several of the child’s cognitive abilities could be impaired when exposed to chronic low levels of lead. Therefore, prevention and early detection are the key elements. Screening children in the low-income sector at a community-based health fair for lead poisoning can assist with the detection and prevention of lead poisoning.

Fifty-one children in the current study were also provided with immunizations. Although there are free immunizations provided at the Health Department, the fair was a convenient means of providing care which appeared to enable families to not only get the immunizations needed, but also the other health services.
All children and families attended the education booths which provided fun ways to provide health and safety education. Solis (1991) conducted a safety fair for children and concluded that the inclusion of safety issues at a health fair for children can “promote learning and awareness of safe behaviors” (p. 267). According to the National Safe Kids Campaign (2003) 168 children, under the age of 14 died in the 2000 from bicycle-related accidents (Wallis, Cody, & Mickalide, 2003). In the same year, 593 children, under the age of 14, died related to fire-related injuries. When faced with this statistical data nurses and other health care professionals who work with children in the low-income sector should feel obligated to provide children and their parent/guardian with childhood safety information at every opportunity. The provision of this information might help to prevent or decrease the number of preventable childhood injuries.

Theoretical Implications

Orem’s (1995) self-care deficit theory provides an outstanding foundation for this research evaluation study. When provided with the necessary skills, knowledge, and resources dependent caregivers are able to meet the basic health needs of their dependents. The goal of nursing should be to supply the dependent caregiver with the necessary skills, knowledge, and resources to meet the needs of their dependent.

Conclusions

This research evaluative study investigated the benefits children in the low-income sector receive from attending a community-based health fair. This study revealed that a family’s socioeconomic status could have an effect on a child’s well-being. The provision of free physical examinations, dental screenings, and vision screenings, and immunizations proved to be beneficial to children in the low-income sector.
sector who attend a community-based health fair. The goal of a community-based health fair should be to promote and increase preventive health care in the low-income sector.

Study Limitations

A limitation at the program design was children in the elementary, junior high public school system, and Head Start programs were the primary target population. Due to various barriers the health fair coordinator was unable to promote the health fair at academy and private schools (elementary and high schools).

At a community-based health fair all health care providers are volunteers and donate their time without any form of compensation. When planning and coordinating a health fair the coordinator has to locate health care providers who are willing to volunteer their time. Unfortunately, the health fair coordinator was only able to recruit one pediatric ophthalmologist who provided two on-site vision screening stations. The stations consisted of vision acuity, muscle balance, and color blindness. At the community-based health fair in 1999, the number of children in attendance was over 200, whereas, over 600 children attended the community-based health fair in 2001. The unexpected high attendance rate in 2001 created a time-lag at the two vision stations and as a result, many adults who accompanied the children to the health fair opted to forego the free vision screening for their child.

Implications for Nursing Practice

Nurses who work with the low-income population need to have an understanding and awareness of the obstacles and health disparities that often plague children in the low-income sector. Healthcare disparities can have a major impact on a child’s
physical, social, and emotional needs. Therefore, when providing care for children in the low-income sector nurses need to totally assess the environment and plan health care events according to their health needs.

The nurse should appropriately assess current social issues (health care reform or changes in the Medicaid program) that might be occurring in the community. For example, when the community-based health fair was planned for 2001, the health care reform issues were taken into account and, as a result, physical and dental examinations were not offered.

In 1979, Surgeon General Julius Richmond released a report that revealed approximately 50% of the deaths that occur annually in the United States could be attributed to unhealthy lifestyles. Patterson, Haines, & Popkin (1994) stated, “if Americans stopped smoking, improved their diet, walked 30 minutes per day, and never used alcohol carelessly a sizable share of the 1.2 million deaths that occur annually could be prevented” (p. 453). Providing children in the low-income sector with health promotion education at an early age can encourage a child to establish a pattern of healthy living.

On-going emphasis should be placed on health education that promotes healthy lifestyles. Ahmadi (1990) defines health “as the ability to function normally without significant disability or disease” (p. 58). According to Watkin (1978) the state of health has a universal appeal and “regardless of age, sex, … all persons capable of rational thought place health at the top of their list of priorities” (p. 2). The state of health is an attainable goal and nurses have the knowledge, skills, and resources to assist the children in the low-income sector obtain this goal. Nurses can educate children and
their parent/guardian regarding health prevention. Nurses can adapt their teaching methods, whereby children receive hands-on activities that will enhance their learning.

Poverty and the lack of access to quality health care have been identified as major factors in the causation of mortality. To reduce the morbidity and mortality in the low-income sector community-based health fairs should be easily accessible and designed to benefit the low-income sector. Health education and health promotion for children in the low-income sector can have a profound effect on child’s health, including their mortality, and morbidity. When planning a community-based health fair the nurse must be cognizant of the targeted population health beliefs and learning methods and

Nurses can use community-based health fairs to serve as a mentor for student nurses and assist student nurses in becoming knowledgeable regarding community nursing.

Implications for Nursing Education

There are several venues in which an advanced practice nurse can benefit from a community-based health fair. An advance practice nurse who is a nurse educator can provide nursing students with new learning and community experiences. A community-based health fairs an incomparable manner for a nurse educator to teach nursing students patient education, clinical and organizational skills. At a community-based health fair the nursing students can provide the attendees with basic health education and assist with health screenings (e.g. blood pressure measurements). Thus, nursing students have the potential to develop interpersonal communication and critical thinking skills. According to an article published by Serina & Glove (1991) the inclusion of nursing students at a community-based health fair assists the nursing student with the
development of “interpersonal, communication, organizational, and management skills…” (p. 8).

The advance practice nurse who is a nurse researcher can evaluate the effectiveness of the community-based health fair. The data obtained can assist the advanced practice nurse who is a community nurse to plan and implement future community-based health fairs. The community nurse can learn about other resources that are available in the community by networking with others. At a community-based health fair the community nurse can develop new knowledge regarding new treatment modalities.

The key to a community-based health fair is prevention. Prevention is the combination of planning, implementing, screening, immunizing, and educating. To promote health and prevent illnesses advance practice nurses from different disciplines must work together to teach children in the low-income sector how to protect themselves from injuries. The advance practice nurse must also include the dependent caregiver and teach them how to protect their child from diseases, thus ultimately extending and sustaining the child’s life. In other words, decreasing the morbidity and mortality rate in the low-income sector.

The effects of poverty and the lack of education can restrict the children in the low-income sector from preventive health care services. However, when advanced practice nurse unite by working with one another, other health professionals, and those in the community children in the low-income sector can enjoy productive healthy lives.
Implications for Nursing Research

More research is needed regarding the benefits children in the low-income sector received from attending community-based health fairs. The majority of the literature written describes the actual health fair for children. Very little research has been done on the benefits children in the low-income sector receive when they attend a community-based health fair that provides physical examinations, dental screenings, vision screenings, and immunizations. Also, the author was unable to locate any research, whereby, physical examinations were provided at a community-based health fair.

In 2003 the community YMCA held their 3rd health fair for children. Physical examinations and lead screenings were not offered and the number of children who attended dropped to under 300. More research needs to be done regarding the benefits children in the low-income sector receive when free physical examinations are offered. This current study is the tip of the iceberg.

Recommendations for Future Research

This study was an evaluation of a program for providing health care to low-income families through a health fair. For future program evaluations, there should be changes to the consent form to include additional information such as identification of health insurance and health providers.

The data obtained in the current study revealed the majority of the participants were from single parent households and in the low-income sector. However, only approximately 10% of the participants at the health fair were adolescents. To increase the adolescent participation at a community-based health fair future research should be
done to ascertain the type of community-based health fairs that will benefit adolescents in the low-income sector. Attempts to attract the adolescent population through youth summer programs, youth sport programs, junior high schools, and high schools should be attempted, and then evaluated to explore if the adolescent attendance increased. If not, research could be done to ascertain if a community-based health fair for adolescents and children should be independent of one that focused on the younger children. Uninsured low-income adolescents are at a greater risk of having unmet healthcare needs, therefore, it is important to ascertain the benefits, if any that occur when they attend a community-based health fair.

Additional research should also be done with assessment of those in higher income brackets who attend a fair. With today’s economic situations, perhaps there are children and adults in other income brackets who currently do not have health insurance and need the services offered at a fair that provides dental, health, and vision screenings.

Summary

This chapter included a summary of the research findings. The conclusions were presented. The current literature was reviewed with relationship to the data presented. The limitation of the health fair was reviewed. In addition, the implication for nursing practice and recommendations for the development of future nursing research in this area is discussed. A community-based health fair can assist children from low-income families to receive the health care needed.
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Hyattsville, MD.


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- Please make certain card is stamped at each station.
- Once your child has visited each station take the completed card to the checkout station.
- ** In order for your child to receive FREE school supplies the card must be stamped at EACH station.**
Unhealthy behaviors are responsible for high morbidity and mortality rates among children in the low-income families. Orem's Self-Care deficit theory served as the framework for examining the health benefits among children in low-income families who attended a community-based health fair.

Data showed that of approximately 600 children, follow-up care was needed for 44% from physical exam, 56% for additional dental care, 25% for additional vision care, 18 had blood lead levels that required follow-up care, and 51 needed immunizations. A community-based health fair is one avenue that can be used to meet low-income families’ needs for health promotion, education, and prevention.