Impact on Material and Child Health Knowledge as a Result of Participation in a Family Resource Youth Services Center New and Expectant Parenting Series

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IMPACT ON MATERNAL AND CHILD HEALTH KNOWLEDGE AS A RESULT OF PARTICIPATION IN A FAMILY RESOURCE\YOUTH SERVICES CENTER NEW AND EXPECTANT PARENTING SERIES

A Thesis
Presented to
the Faculty of the Department of Public Health
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Requirements for the Degree
Master of Science

by
Donna I. Sims
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IMPACT ON MATERNAL AND CHILD HEALTH KNOWLEDGE AS A RESULT OF PARTICIPATION IN A FAMILY RESOURCE/YOUTH SERVICES CENTER NEW AND EXPECTANT PARENTING SERIES

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The purpose of this study was to determine whether participation in a Family Resource\Youth Services Center New and Expectant Parenting Series had an impact on maternal and child health knowledge of parents and their future behavior choices. The study had two components. First, a telephone survey was conducted with 40 past program participants asking them nine questions concerning behavior and lifestyle choices in regards to child safety, breast or bottle feeding, immunizations, car seat use, etc. Secondly, thirty participants were given a pretest and posttest questionnaire. As a control group, there were 25 Lameze class participants, who also completed the pre-test and posttest questionnaires. The questionnaire was a 20 item multiple choice instrument (Learning About Parenting Survey or LAPS) which measured maternal and child health knowledge in such areas as family planning; informed parenting; maternal health; basic baby care; breast-feeding; bottle-feeding; first aid; child's health including immunizations, child safety; nutrition; child development and discipline. Analysis of covariance was performed using the LAPS raw scores from the posttests as the dependent variable, the pretest scores as the covariate and the treatment as the independent variable. The
results showed no significant difference in parenting knowledge between the individuals enrolled in the Family Resource\Youth Services Center's New and Expectant Parenting Series and the comparison group who did not take the course.
Chapter One

Introduction

Becoming a parent is one of the toughest challenges a woman and man will face in a lifetime. Learning about the care and development of a woman's body and that of the new baby can help parents have more self-confidence in their ability to cope and feel more at ease in their new found roles.

For Kentucky's Family Resource\Youth Services Centers, one of the mandated core service components is the education of new and expectant parents. The Family Resource\Youth Services Centers have the potential to make an impact on these new parents and their babies born across the state of Kentucky. In fact, good prenatal care and education will benefit current and future generations.

There are approximately four million children born in the United States every year (FDA Consumer, November 1996). It would be ideal for all mothers to receive prenatal care prior to giving birth. Prenatal care is designed to improve the health of the mother and infant; to increase the likelihood of a full-term pregnancy; and to lower the risk of complications and low birth weight. Low birth weight infants are defined as weighing 5.5 pounds\2.5 kg or less (March of Dimes, 1996).

Low birth weight has been linked to higher levels of physical, mental and emotional problems throughout childhood. Research has also found that low
birth weight infants are more likely to have problems later in life. Two-thirds of all newborn deaths are low birth weight infants (Macleans, June 21, 1993). Therefore, adequate prenatal care increases the odds that women will deliver healthy full-term babies.

A study conducted in McLennan County, Texas, used hospital records for 7,000 births during the period June 1987-July 1989 to examine the association between prenatal care and birth outcomes. Females who failed to receive prenatal care were almost three times as likely to have a low birth weight infant. The study also showed hospital cost savings for females who received prenatal care was over $1,000 (Health Care Financing Review, Summer 1994). The Office of Technology Assessment, an arm of Congress, says caring for a baby weighing less than 5.5 pounds can cost $11,670 to $39,000 immediately after birth. Caring for a baby weighing less than 3.25 pounds costs $62,000 to $150,000 (Business and Health, May 1993). The cost of regular prenatal visits and a full term vaginal delivery of a healthy baby is under $4,000.

**Purpose of the Study**

The purpose of this thesis is to determine whether participation in a Family Resource\Youth Services Center New and Expectant Parenting Series has an impact on maternal and child health knowledge of the parents and future behavior choices. Specifically, I will attempt to determine if parenting and maternal and child health knowledge increases after completing a five-week, new and expectant parenting series.
**Need for Study**

Improving the health of mothers and infants is a goal of the nation, the Commonwealth of Kentucky and the Family Resource\Youth Services Centers. There is a need to determine if the present new and expectant parenting series is having an impact on parenting and maternal and child health knowledge and if there is positive behavior change.

According to the 1990 Census, the population of Kentucky was 3,685,296 with 19% of the population falling below the poverty level. In Hart County, the population was 12,233 with 28% of the population falling below the poverty level. Recent analysis of state sample data for 1992-1994 suggests that nearly three in ten Kentucky children live in poverty. Another two in ten live just above the poverty line (1996 Kentucky Kids Count Data Book).

Although there is evidence to indicate the importance of early prenatal care, there are still women who do not receive adequate treatment. The average annual number of live births in Kentucky from 1993-95 was 52,615. Of these births, 82.1% had first trimester prenatal care. Of these 52,615 births, 8998 babies or 17% were born to females 12-19 years of age. In regards to Hart County, the average annual number of live births from 1993-95 was 214. Of these 214 births, 20% of the babies were born to females 12-19 years of age (1996 Kentucky Kids Count Data Book).

According to most research, the main factors that contribute to low birth weight are poor nutrition before, during, and after pregnancy, early or late maternal age, the use of alcohol, tobacco or other drugs during pregnancy and
low income. For these reasons, programs that educate families and provide material support to pregnant women, especially the poor, are very important.

**Hypotheses**

The null hypothesis of this study was as follows:

A. There will be no significant difference in parenting knowledge between individuals enrolled in the Family Resource\Youth Services Center's New and Expectant Parenting Series and a comparison group who do not take this course.

**Basic Assumption**

The assumptions of this study are as follows:

1. All the pre-test and posttest respondents will answer their questionnaires honestly and to the best of their knowledge.
2. All telephone survey respondents will answer behavior change questions honestly.

**Delimitations**

1. This study is delimited to Hart County residents between Spring 1995 to Spring 1997.

**Limitations**

1. Subjects were not randomly assigned to treatment and control group.
2. Subjects were self-selected by voluntary participation.
Chapter Two

Review of Literature

Each year more than four million babies are born in the United States. Whether these birth outcomes are happy and healthy depend on a number of factors. These children’s existence can depend on their parents’ choices, especially their mothers’, to determine if they will or will not have all of the potential for the full and productive life they deserve.

Many of the known risk factors associated with low birth weight, such as socioeconomic status, ethnicity, genetic makeup and obstetric history are not within a woman’s immediate control. However, research has shown that lack of prenatal care and poor lifestyle choices are associated with low birth weight, preterm births and even death (Cagle, 1987). Mothers who obtain early and regular prenatal care and develop positive health behaviors are less likely to deliver low birth weight and premature babies, yet 24% of mothers delivering live infants do not get prenatal care during the first trimester (Healthy People 2000: Review 1992, 1993).

In 1901, organized outpatient prenatal care in the United States consisted of home visits performed by social reformers and nurses (Thompson, Walsh, and Merkatz, 1990). The purpose of these visits was to provide instruction in self-care and emotional support for low income women (Speert, 1980). Today
the content of prenatal care varies, but typically it is begun in the first trimester of pregnancy and has an increasing schedule of visits as the pregnancy progresses. If a woman’s pregnancy goes to term, she may have anywhere from 10 to 14 prenatal visits. The content of this care usually includes screening for a variety of medical conditions, physical exams and educational or counseling services. Regular screening of the mother’s urine and blood pressure is routinely incorporated into prenatal care to detect the occurrence of eclampsia—a potentially life threatening illness that results in high blood pressure, convulsions and eventually death if not treated (Speert, 1980).

Defining an accurate way to measure the adequacy of prenatal care has been a major challenge. Over the years, it has been defined by the number of visits, the stage of pregnancy when care was begun, the source of care (private versus clinic), the spacing of visits and/or the content of medical care and auxiliary services, (i.e., blood and urine tests), health education and dental care (Donabedian and Rosenfeld, 1961). In 1962, Schwartz suggested that the association between low birth weight and the trimester in which care began or the number of prenatal care visits may well be confounded by gestational age (Schwartz, 1962). Hogue, Buehler, Struass and Smith (1987) and Malloy, Kao and Lee (1992) found that babies born to mothers receiving prenatal care in the first trimester had considerably lower risk of infant mortality. In women who deliver after 36 weeks of gestation, the risk of stillborn death and infant death was greater for women with no prenatal care than those receiving early care (Malloy et al., 1992).
Very little is known about the risk factors for preterm births. For preterms in developed countries, the primary known risks are 1) cigarette smoking; 2) prior preterm birth and spontaneous abortion; 3) low pre-pregnancy weight; and 4) in utero exposure to diethylstilbestrol (DES), a miscarriage deterrent used primarily in the 1950's in the United States (Kramer, 1990).

Lifestyle behaviors such as cigarette smoking, weight gain during pregnancy and the use of licit and illicit drugs play an important role in determining fetal growth. Pregnancy or even the thoughts of pregnancy provide a window of opportunity to improve women's health and the health of their unborn child. The change before or during pregnancy to more healthful lifestyle behaviors can positively affect the long-term health of women and their infants.

Concern about nutrition during pregnancy fall into two basic areas, maternal weight gain and nutrient intake, both of which can potentially affect the health of the mother and infant. On average, women gain about 30 pounds during pregnancy. Teenage mothers, older mothers, unmarried mothers, and mothers with less than a high school education are most likely to have low or inadequate weight gain during pregnancy (National Center for Health Statistics, 1992). It is estimated that from 15% to 33% of women gain an inadequate amount of weight (less than 22 pounds) during pregnancy (Scholl and Khoo, 1991). Belief that a smaller baby is easier to deliver and thus that weight gain and fetal birth weight should be limited influences the amount of weight gained by some women (Chez, 1986).
During pregnancy, the need for calories and nutrients, such as protein, iron, folate, and the other B vitamins increases to meet the demands of the fetus as well as the expansion of maternal tissues that support the fetus. Groups of women at risk of nutritional inadequacy include: women who are dieting; pregnant teens; women of low income or limited food budgets; women with eating patterns or practices that require balancing food choices, such as a strict vegetarian; women with emotional illness; smokers; women with poor knowledge of nutrition due to lack of education or illiteracy; and women with special difficulties in food resource management because of limited physical abilities and poor cooking or budgeting skills (Dwyer, 1983).

Since the 1970's, the Surgeon General has reported that cigarette smoking during pregnancy is linked to fetal growth retardation and to infant mortality (U.S. Department of Health, Education and Welfare, 1973). Smoking during pregnancy has been linked with 20% to 30% of low birth weight births and 10% of fetal and infant deaths (Kleinman and Madans, 1985). Cigarette smoking is unequivocally the largest and most important known modifiable risk factor for low birth weight and infant death.

Approximately 20% to 25% of American women smoke during pregnancy (National Center for Health Statistics, 1992). Birth weight is reduced by 150 to 320 grams (5.3 to 11.4 ounces) in infants born to smokers compared with those born to nonsmokers (Butler, Goldstein and Ross, 1972). It has been consistently reported that, even after controlling for other factors, women who smoke are about twice as likely to deliver a low birth weight baby as women who do not
smoke. Cigarette smoking during pregnancy may account for up to 14% of preterm deliveries (Kramer, 1987).

Studies of women who quit smoking at almost any point during pregnancy show lower rates of low birth weight. Most fetal growth takes place in the last trimester, so that quitting early in pregnancy can decrease the negative effect of smoking on birth weight (U.S. Department of Health and Human Services, 1990). Quitting even as late as the seventh or eighth month has a positive impact on birth weight (Rush and Cassano, 1983).

The bulk of evidence shows a clear, consistent association between low birth weight/infant mortality and smoking during pregnancy. Overall, about one-quarter of women who smoke prior to pregnancy quit upon learning of their pregnancies, and additional one-third reduce the number of cigarettes they smoke (Wilner, Secker-Walker, Flynn, et al, 1987).

Smoking also impacts on other aspects of the health status of women and infants. Smoking has been linked to long-term effects in infants such as physical, mental, and cognitive impairments (Brandt, 1987). The linkages between smoking and illnesses, such as cancer and cardiovascular and respiratory disease, are well known (U.S. Department of Health and Human Services, 1989). In addition, research on the effects of passive smoke indicates an increased frequency of respiratory and ear infections among infants and children exposed to this smoke (Samet, Lewit and Warner, 1994).

Once again, O'Connor, Davies, Dulberg, Buhler, Nadon, McBride, and Benzie (1992) report pregnancy is an ideal time to encourage women to quit
smoking because prenatal care provides several smoking cessation intervention opportunities with health care providers. Many women who smoke are already motivated to change their behaviors and cut down on the amount of cigarettes they smoke during the first trimester.

Alcohol use during pregnancy has long been associated with both short- and long-term negative health effects for infants. Alcohol abuse during pregnancy is clearly related to a series of congenital malformations described as fetal alcohol syndrome. Heavy alcohol consumption has been cited as the leading preventable cause of mental retardation worldwide (Abel and Sokol, 1987). The effects of light to moderate drinking on the fetus are not well established. Likewise, the role of binge drinking is unknown.

Medical researchers are aware that children of women who continued to drink an average of greater than one drink daily throughout their pregnancies are significantly smaller, shorter, and have smaller head circumferences than infants of control mothers who stop drinking (Day, Jasperse, Richardson, et al, 1989). Any alcohol use during pregnancy is associated with older, white, professional college educated women with few previous children. Drinkers are more likely to be unmarried and to smoke than are nondrinkers (Serdula et al., 1991).

In recent years, the rise in the use of illicit drugs, particularly prenatal cocaine, or "crack," use has received extensive coverage in the popular press and sparked many investigations. Prenatal cocaine and heroin abuse are clearly associated with certain adverse birth outcomes.
Maternal cocaine use has been associated with low birth weight, preterm labor, abruptio placenta, and fetal distress (Dattel, 1990). Brain damage and genitourinary malformations of the neonate have been reported, as well as fetal hypothermia, thyroid abnormalities, stroke and acute cardiac events (Office for Substance Abuse Prevention, 1989). Cocaine use among pregnant women has been estimated at 2.3% to 3.4% (Handler et al., 1991). Recent evidence suggests that, for pregnant women who receive treatment for drug abuse before their third trimester, the risks of low birth weight and preterm birth due to cocaine use may be minimized (U.S. General Accounting Office, 1991).

The effects of marijuana use on pregnancy and infant outcomes are inconclusive. Children exposed to marijuana in utero may be smaller than non-exposed infants (Zuckerman et al., 1989). Other reports suggest that pregnant women who smoke marijuana are at a higher risk of preterm labor, miscarriage, and stillbirth (Office for Substance Abuse Prevention, 1989). Unfortunately, many women who do engage in high risk behavior do so in two or more ways such as combining smoking, drinking, and recreational drug use. And, many of these women are poor, receive inadequate prenatal care and are under significant stress. It has proven difficult to control for these multiple confounding factors.

The adoption of healthful lifestyle behaviors before or during pregnancy, such as ceasing to smoke cigarettes, eating foods that supply adequate nutrition and produce an appropriate amount of weight gain, ceasing or reducing alcohol
consumption, and ceasing illicit drug use, can positively affect the long-term health of women, future pregnancy outcomes, and health of children.

After delivery of a low birth weight infant (those weighing less than 5.5 pounds) almost all require special attention. Although many function normally during childhood and beyond, they are more likely than children of normal birth weight to experience health and developmental problems. Medical and technological advances in the care of infants with low birth weight have substantially increased the survival rate for these infants and have led to concerns about the demands their care places upon their family and society.

The average cost for delivering a healthy baby is under $4000. Caring for a baby weighing less than 5.5 pounds can cost $11,670 to $39,000 immediately after birth. Caring for a baby weighing less than 3.25 pounds costs $62,000 to $150,000. Lifetime medical costs for care and treatments for low birth weight can average $389,000 (Zicklin, 1992).

A 1992 U.S. Public Service Report indicated that for every baby carried to term an average of $21,000 in hospital costs can be saved during neonatal period as a result of better prenatal care. One dollar spent on prenatal care can save over $3 spent on medical care in the first year of life for a low birth weight baby (Corporate Summit for Children, 1992).

Unintentional injuries are the leading cause of death in children after infancy and appear to be about as costly as low birth weight. In contrast, the annual direct cost of low birth weight was several times the annual direct cost of AIDS among persons of all ages in 1988 and, although the cost of AIDS has
grown very rapidly since 1988, most believe that the annual direct cost of low birth weight continues to exceed the cost of AIDS (Hellinger, 1993). Ultimately, the real costs of low birth weight are the costs experienced by human beings who are not able to realize their full potential.

In summary, a woman who seeks out and obtains regular prenatal care and educational services will greatly enhance the chances of having a healthy baby. Low birth weight and preterm births are more likely to be associated with serious health problems and higher medical costs than are healthy births.
Chapter 3

Methods and Procedures

This study was designed to collect information from participants of the Family Resource\Youth Services Center New and Expectant Parenting Series. The purpose was to determine whether participation has an impact on maternal and child health knowledge of the parents and future behavior choices.

Hypothesis

The null hypothesis of this study was as follows:

1. There will be no significant difference in parenting knowledge between individuals enrolled in the Family Resource\Youth Services Center’s New and Expectant Parenting Series and a comparison group who do not take this course.

A follow-up phone survey was conducted with 40 past participants of the New and Expectant Parenting Series. Parents were asked nine questions pertaining to child health and safety issues

Location of the Study

The Family Resource\Youth Services Center program was established by the passage of the Kentucky Education Reform Act in 1990. The primary goal of Family Resource and Youth Services Centers is to remove non-cognitive barriers to learning. These school based Centers are efforts designed to
promote the flow of resources and support to families in ways that strengthen the functioning and enhance the growth and development of the individual members of the family unit. Each Center has a unique blend of program components depending on location, available services, local need and community input.

Family Resource Centers serve elementary age children. Following are the mandated components which must be addressed:

1. Preschool child care for children two and three years of age;
2. After school child day care;
3. Families-In-Training;
4. Parent and Child Education;
5. Support and Training for Child Day Care Providers, and;
6. Health Services or Referrals to Health Services.

Youth Services Centers serve children of middle and high school age. The mandated components which must be addressed are as follows:

1. Referrals to health and social services;
2. Employment Counseling, Training, and Placement;
3. Summer and Part-Time Job Development;
4. Substance Abuse Services and/or Referrals;
5. Family Crisis and Mental Health Counseling.

Eligible schools compete for grants ranging from $10,000 to $90,000. In order to be eligible for a grant, at least 20% of a schools’ student population must be eligible to receive free school meals. The size of the grant depends upon the number of children attending who are eligible for free school meals.
As of August 1997, Kentucky has 588 Family Resource\Youth Services Centers serving 934 schools. Hart County established two Centers in July 1993 and then placed a third one in July 1994. These three Centers serve all six schools (five elementary schools and one high school), all of which are in the Hart County School District.

In the Spring of 1995, the Hart County Family Resource\Youth Services Centers (FRYSC) began a New and Expectant Parenting Series to fulfill the Families-In-Training component. The Learning About Parenting Curriculum was used as the main core of teaching. The series ran for five weeks with a two and one-half hour session each week and covered these topics:

1. Creating Your Future
2. Looking Good and Feeling Great After the Baby Comes
3. Informed Parenting
4. Caring for a Baby
   - What’s Normal About a Newborn
   - Bathing and Caring for a Newborn
   - Carrying a Baby
   - Dressing a Baby
5. Nourishing the Newborn: Birth to Four Months
6. Nourishing the Older Infant: Four to Twelve Months
7. A Child’s Health
   - When to Call the Doctor
- Immunizations
- Temperature
- Teething
- How to Use a Bulb Suction

8. Play, Toys and the Safe Environment: Infant Through One Year
9. Child Development: Birth to Twelve Months
10. Calming the Crying Baby
11. Laying the Foundation for Discipline

The Learning About Parenting (LAP) lessons vary from the concrete to the abstract. The LAP program is designed to be flexible. Lessons can stand alone or in a series. Learning about the care and development of a new baby can help the parent have more self-confidence in his/her ability to cope.

The Hart County Schools/FRYSC Nurse was the lecturer with guest speakers being used for nutrition (Hart County Extension Agent) and child safety issues (Kentucky State Police Officer).

Incentives were given to encourage participation in the program. At each session several door prizes were given away with a nursery monitor given away from a random drawing at the end of the classes. Also, each participant who attended four out of the five sessions received an infant/toddler convertible safety seat. These seats were obtained by the Hart County FRYSC applying for Kentucky Safe Kids grants and/or request from local Kentucky State Police and Traffic Safety Councils. All participants received baby care items such as
clippers, bibs, bottles, lotions, etc., along with a canvas bag filled with a variety of educational materials relating to pregnancy, childbirth and child rearing.

**Participants of the Study**

The study had two components. First, a telephone survey was conducted with 40 past program participants from the Spring and Fall 1995 and Spring 1996 New and Expectant Parenting Series classes (Appendix A and B). Second, thirty participants from the Summer and Fall 1996 and Spring 1997 classes were given a pre-test and posttest questionnaire. As a control group, there were 25 Lameze class participants, who also completed pretest and post-test questionnaires. Treatment and control were two distinct groups and no person participated in both.

**Instrumentation**

A 20 item multiple choice questionnaire was developed by the author (i.e., Learning About Parenting Survey-LAPS) (Appendix C). Total scores range from 0-20. To test the reliability of the questionnaire, the instrument was pilot tested with a group of 49 female students enrolled in graduate Drug Education or Statistics classes or an undergraduate Epidemiology class at Western Kentucky University in the Department of Public Health during the 1996 Fall Semester. Subjects took the LAPS twice, one week apart. Test-retest reliability was .69.

The questionnaire measured maternal and child health knowledge in such areas as family planning; informed parenting; maternal health; basic baby care; breast-feeding; bottle-feeding; first aid; child's health including immunizations; child safety; nutrition; child development and discipline.
Data Collection

Forty past participants were contacted by phone to answer nine survey questions concerning behavior and lifestyle choices in regards to child safety, breast or bottle feeding, immunizations, etc.

Staff of the Hart County Family Resource Centers were instructed to ask each New and Expectant Parent participant to complete the questionnaire during the first class session. At the end of the five weeks, program participants were asked to complete the questionnaire a second time. The control group consisted of pregnant women who were enrolled in a Lameze Childbirth Education class. These participants were given the pre-test and posttest five weeks apart as well.
Chapter 4

Results

The purpose of this thesis was to determine whether participation in a Family Resource\Youth Services Center New and Expectant Parenting Series has an impact on learned maternal and child health knowledge of the parents and future behavior choices. Data were collected using the LAPS and a follow-up telephone survey with past participants of the parenting program. The sample studied were individuals participating in the Family Resource\Youth Services Center New and Expectant Parenting Series and a Lamaze Class.

Description of Study Sample

A total of 95 individuals participated in the main study. Thirty subjects were in the treatment group, 25 in the control group and 40 were contacted via a phone survey for follow-up only. Fifty-five individuals (i.e., the treatment and control groups) completed both the pretest and posttest questionnaires. Forty-nine additional individuals were part of a pilot test to assess the reliability of the questionnaire.

The treatment group consisted of 30 participants in the Family Resource\Youth Services Center New and Expectant Parenting Classes (Summer '96, Fall '96 and Spring '97). The mean age of the treatment group was 22.7 years of age (Standard Deviation = .49; Range = 16 to 30 years).
Ninety percent were pregnant during the class, while the other 10% had a child 12 months old or less. Yearly income levels were (a) less than $10,000-57% (n=17), (b) $10-20,000-17% (n=5), (c)$20-35,000-20% (n=6), (d)$35-50,000-3% (n=1), and 3% (n=1) gave no response. Regarding the race of the treatment group, 94% (n=28) were white, 3% (n=1) black, and 3% (n=1) were bi-racial. Each of the 30 individuals were asked their educational levels. Responses were (a)some high school-30% (n=9), (b)High School Diploma\GED-40% (n=12), (c)some college-20% (n=6), and (d)college graduate-10% (n=3). Thirty percent (n=9) of the treatment group received their prenatal care through a health department; 60% (n=18) by a physician; 3% (n=1) from a midwife and 7% (n=2) did not respond to the question.

The control group consisted of 25 participants from a Lamaze Class held at a local hospital and conducted by a certified child birth educator. All participants were pregnant. In regards to yearly income level (a) less than $10,000-52% (n=13), (b)$10-20,000-48% (n=12), (c)$20-35,000-0%, and (d)$35-50,000-0%. Racial status was (a) white-80% (n=20), (b) black-16% (n=4), and (c) biracial-4% (n=1). In reference to educational levels, responses were (a) some high school- 28% (n=7); (b) High School Diploma\GED- 60% (n=15); and (c) some college education- 12% (n=3). All participants of the control group received prenatal care from the health department. The Lamaze Class was offered at no cost to WIC recipients.

The follow-up group consisted of 40 individuals contacted by phone within one and a half years following completion of the program. Yearly income levels
were (a) less than $10,000-47.5% (n=19), (b) $10-20,000- 32.5% (n=13), (c) $20-35,000- 17.5% (n=7), and (d) $35-50,000- 2.5% (n=1). Regarding race of the follow-up group, 87.5% (n=35) were white, 12.5% (n=5) were black. When asked of their educational status, responses were (a) some high school- 37.5% (n=15), High School Diploma\GED- 40% (n=16), (c) some college- 15% (n=6), and (d) college graduate- 7.5% (n=3). The mean age of the follow-up group was 23.65 years of age (Standard Deviation = .82; Range = 15 to 40 years). Fifty-five percent (n=22) of the follow-up group received their prenatal care through a health department; 42.5% (n=17) by a physician; 0% from a midwife, and 2.5% (n=1) did not respond to the question.

Descriptive Data

Data on the treatment\control subjects’ LAPS scores are presented in Table 1. The table displays the mean and standard deviation for both groups on the pretest and posttest.

Hypothesis Testing

Research Hypothesis 1: There will be no significant difference in parenting knowledge between individuals enrolled in the Family Resource\Youth Services Center’s New and Expectant Parenting Series and a comparison group who do not take this course.

To test this hypothesis, analysis of covariance was performed, using the LAPS raw scores from the posttests as the dependent variable, the pretest scores as the covariate, and the treatment as the independent variable. These
Table 1. Treatment and Control Group Pretest and Posttest Data

<table>
<thead>
<tr>
<th>Study Group</th>
<th>Treatment Group (n=30)</th>
<th>Control Group (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
</tr>
<tr>
<td>Pretest</td>
<td>12.87</td>
<td>1.14</td>
</tr>
<tr>
<td>Posttest</td>
<td>14.32</td>
<td>1.05</td>
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data are presented in Table 2. No significant difference was found between the
groups. The pretest and posttest means are graphed in Figure 1.

The forty past participants of the New and Expectant Parenting Series
were asked nine questions relating to child health and safety issues. The
responses to question numbered one “Does your child ride in car safety seat?”
were (a) at all times- 37.5% (n=15), (b) most of the time- 55% (n=22), (c) rarely-
7.5% (n=3), and (d) none of the time- 0%. The response to question number two
“How was your baby fed?” were (a) breast-fed- 10% (n=4), (b) bottle-fed- 72.5%
(n=29), and (c) combination of both- 17.5% (n=7). The response to question
numbered three “Have you child-proofed your home?” were (a) locks on cabinets
with household chemicals, medications, etc.- 60% (n=24), (b) safety plugs in
electrical outlets- 80% (n=32), (c) guns in safe boxes and ammunition stored
separately- 20% (n=8), and (d) secured blind and/or curtain pulls to keep them
from dangling- 47.5% (n=19). Responses to questions numbered four through
nine are displayed in Table 3.
Table 2. **Analysis of Covariance Comparing Posttest Scores Between Treatment and Control Groups Utilizing the Pretest as a Covariate**

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
<th>SIGN</th>
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<tr>
<td>within + residual</td>
<td>215.11</td>
<td>52</td>
<td>4.14</td>
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<tr>
<td>regression</td>
<td>111.70</td>
<td>1</td>
<td>111.70</td>
<td>27.00</td>
<td>.000</td>
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<tr>
<td>group</td>
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<td>1</td>
<td>6.02</td>
<td>1.46</td>
<td>.233</td>
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<tr>
<td>model</td>
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<td>2</td>
<td>55.94</td>
<td>13.52</td>
<td>.000</td>
</tr>
<tr>
<td>total</td>
<td>326.98</td>
<td>54</td>
<td>6.06</td>
<td></td>
<td></td>
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</table>

r-squared = .342

Adjusted r-squared = .317

<table>
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<tr>
<th>Covariate</th>
<th>B</th>
<th>Beta</th>
<th>St. Error</th>
<th>t-value</th>
<th>SIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>.579</td>
<td>.596</td>
<td>.111</td>
<td>5.196</td>
<td>.000</td>
</tr>
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</table>
Figure 1. Pretest and Posttest Means on LAPS

x = treatment group
o = control group
<table>
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<th></th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
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<tr>
<td>First Aid\CPR Trained</td>
<td>15</td>
<td>6</td>
<td>85</td>
<td>34</td>
</tr>
<tr>
<td>Up-to-date Immunizations</td>
<td>100</td>
<td>40</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>Use of Parenting Skills When Frustrated</td>
<td>72.5</td>
<td>29</td>
<td>27.5</td>
<td>11</td>
</tr>
<tr>
<td>Class Helpful</td>
<td>98</td>
<td>39</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Planning a Future Pregnancy</td>
<td>60</td>
<td>24</td>
<td>40</td>
<td>16</td>
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<tr>
<td>Recommend Class to a Friend</td>
<td>100</td>
<td>40</td>
<td>0</td>
<td>40</td>
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</tbody>
</table>
Chapter 5

Conclusion

Summary of Results

This study was used to determine if any significant difference in parenting knowledge existed between individuals enrolled in the Family Resource\Youth Services Center’s New and Expectant Parenting Series and a comparison group who did not take the course. Analysis of covariance was performed on the numerical data in which no significant difference was found between the treatment and control groups. Past participants of the New and Expectant Parenting Series were contacted by phone and requested to answer nine survey questions concerning behavior and lifestyle choices.

Discussion

The outcome of this study may have been different had there been a larger sample size. However, due to the time constraints of this study and lack of control over participant’s timing of pregnancy, it was impossible to regulate sample size.

Other possible reasons for this lack of difference are as follows:

1. Topics covered were general knowledge by nature and, therefore, no evidence of learned behavior was shown.
2. Trainers were inadequately trained or otherwise ineffective.

Follow-up results did determine several positive outcomes. All 40 parents had kept the child's immunization up-to-date; 98% felt the class was helpful; and 100% would recommend the class to a friend.

Limitations

The Family Resource\Youth Services Centers’ New and Expectant Parenting Series was created in the Spring of 1995. Study results could have shown no significant difference due to subjects not being randomly assigned to treatment and control groups. Subjects were self-selected and participated voluntarily.

The study involved women who enrolled and completed the program between the Spring of 1995 and the Spring of 1997. Because participants completed the pretest and posttest at varied times, it is possible that unforeseen events occurring during the time period may have influenced the participants’ responses.

Conclusions

Based on the statistical analyses, no significant differences between groups were found in this study. This leads to the conclusion that

1. Participation in a Family Resource\Youth Services Center New and Expectant Parenting Series did not appear to have an impact on learned maternal and child health knowledge of the parents.
2. Follow-up survey results indicated a majority of program participants were engaging in a variety of positive behaviors and stated they found the class helpful.

**Implications**

Being an expectant or new parent provides an excellent opportunity for maternal and child health promotion and intervention. Attending classes such as the Family Resource\Youth Services Center New and Expectant Parenting Series can provide essential elements of needed prenatal, postnatal and child health education. Based on the results of this study, even though no effect was found, some implications for new and expectant parent education can be drawn.

**Recommendations**

Based on the results of this study, the following suggestions are made for future studies:

1. The data collection should be continued in order to increase the sample size for further analysis.
2. Other factors influencing the parent’s behavior choices need to be considered in future studies.
3. Class activities allowing the parents to personalize the information presented should be instituted into the parenting series.
4. Data collection should include martial status and living arrangements.
Works Cited


Appendix A

LEARNING ABOUT PARENTING TELEPHONE SURVEY

Hello, "Participant's Name", this is Donna Sims from the H.O.P.E. Family Resource Center. How are you doing today? You completed a New and Expectant Parenting Class in "Class Date Attended". I would like to ask you a few questions in regards to the class. Is this a good time for you? (Refer to Attached Survey for Participant's Name, Phone, and Date Class Attended)

Answer & person calling is at home.  
No answer or person calling is not at home.  

Proceed  
Call back

Yes  
No...Is there a better time to call? If so, when may I call again? (Set Appt.) Thank you for your time.

Refer to Attached Survey  
Ask Questions. 
Thank you for taking the time to answer the survey. Is there anything else I can help you with today?
Appendix B

LEARNING ABOUT PARENTING TELEPHONE SURVEY

Participant Name: ____________________________
Phone: ____________________________
Date Class Attended: ____________________________
If Not Completed on First Attempt, Best Time to Return Call:
   Day\Date: ____________________________
   Time: ____________________________

1. Does your child ride in a car safety seat:
   _____A. At all times
   _____B. Most of the time
   _____C. Rarely
   _____D. None of the time

2. Was your baby:
   A. Breast-fed
   B. Bottle-fed
   C. Combination of both

3. Have you child-proofed your home?
   _____Locks on cabinets with household chemicals, medications, etc.
   _____Safety Plugs in Electrical Outlets
   _____Guns locked in safe boxes and ammunition stored separately
   _____Secured blind and/or curtain pulls to keep them from dangling

4. Have you or your spouse been trained in First Aid and/or Infant CPR?
   _____Yes  _____No

5. Is your child up-to-date with current immunizations?
   _____Yes  _____No

6. Are you using the parenting skills taught in class when your child(ren) is frustrating you?
   _____Yes  _____No

7. Do you feel the class was helpful to you and your family?
   _____Yes  _____No

8. Are you planning a future pregnancy?
   _____Yes  _____No

9. Would you recommend the class to a friend or family member?
   _____Yes  _____No
1. Mothers who have their first child before they finish high school face many problems. Which one of the following situations causes most to drop out?
   a) have to work
   b) inadequate child care
   c) lack of transportation
   d) poverty
   e) other: _______________________

2. What is the main reason for planning your next pregnancy?
   a) a woman's body needs time to recover and return to pre-pregnancy levels of weight, nutritional state and fitness
   b) child can benefit from having parent's undivided attention
   c) will help to create the parent's future
   d) All of the above

3. Informed parenting means that you actively seek out information and learn as much as possible about your child and effective parenting techniques. One source of information to seek out is:
   a) television families as role models
   b) family and friends
   c) your own child
   d) Both B and C
   e) None of the above

4. Being an informed parent:
   a) increases your confidence that you are doing the right thing for your child
   b) helps you to avoid typical mistakes
   c) is good for you and your child
   d) All of the above

5. Which of the following factors that affect your health can you control:
   a) diet and exercise
   b) regular doctor visits
   c) Genetics or Hereditary
   d) Both A and B
6. Name the most important behavior you can do to take care of yourself after the baby comes:
   a) get enough rest and relaxation
   b) begin an exercise program immediately
   c) Both A and B
   d) None of the above

7. Until the umbilical cord falls off it is important:
   a) to leave the cord alone
   b) to clean the cord with alcohol
   c) to clean the cord with water
   d) None of the above

8. To prevent a diaper rash:
   a) use petroleum jelly, A & D ointment or Destin with each diaper change
   b) always clean the skin with soap and water after bowel movements
   c) there is nothing anyone can do to prevent a diaper rash
   d) Both A and B

9. Which of the following is an advantage of breast-feeding:
   a) breast-fed baby has fewer allergies
   b) breast-feeding is an effective method of birth control
   c) breast-feeding comes easy to the mother. It does not have to be learned.
   d) All of the above

10. With bottle-feeding, the most important step is:
    a) warm the bottle in the microwave before feeding
    b) always hold the baby when feeding
    c) cleanliness is essential to protect the baby from harmful germs
    d) Both B and C

11. Which of the following foods should not be given to a baby because of the risk of choking:
    a) corn
    b) hot dog
    c) peanut butter
    d) All of the above can be given with adult supervision
    e) All of the above can cause choking
12. A doctor should be called when your baby:
   a) has a decreased appetite
   b) pulls on his/her ear
   c) has diarrhea
   d) All of the above
   e) Both A and B

13. By twelve months of age, your baby should have received all of the following except for:
   a) DPT- Diphtheria, Peritussi, Tetanus
   b) OPV- Oral Polio Vaccine
   c) MMR- Measles, Mumps and Rubella
   d) Hepatitis B

14. Which of the following should be done to child proof your home:
   a) all medications should be stored out of reach
   b) blind or curtain cords should not be left dangling
   c) place covers in unused electrical outlets
   d) a unloaded gun should be stored separate from the ammunition & locked up
   e) All of the above

15. Using infant\toddler car safety seats is very important in the protection of your child from harm or even death. However, to be effective it must be used correctly. Which of the following statements are true?:
   a) Babies up to twenty pounds should ride facing the rear of the car.
   b) the middle of the back seat is the safest place for a infant\toddler safety seat to be placed.
   c) If a car has a passenger side air bag, only a rear facing infant safety seat should be used.
   d) All of the above
   e) Both A and B

16. Reasons for using discipline include:
   1. Helps child learn right from wrong, good from bad
   2. Allows the parent to make choices for the child
   3. Helps a child feel good about himself
   4. Teaches children respect
   5. Allow children to be in charge of their own actions
From this list, the best choices are:

a) 1, 4, 5  
b) 1, 2, 4  
c) 1, 3, 4, 5  
d) 2, 3, 4, 5

17. Head trauma is the leading cause of disability and death among abused infants. Which of the following is one of the major causes:

a) no bumper guards in the crib  
b) dropping an infant  
c) violent shaking  
d) All of the above  
e) None of the above

18. Which of the following is a reason for a baby to cry:

a) lonely  
b) fatigue  
c) no reason  
d) hunger  
e) All of the above

19. There are four stages of child development: physical, language, intellectual and social and emotional. The importance of touch comes from which stage of development?

a) intellectual  
b) language  
c) social and emotional  
d) physical

20. When introducing solid foods to your baby:

a) Allow the child to eat what they want  
b) Start one new food at a time  
c) Put food in a bottle or infant feeder  
d) Add salt, sugar, and/or fat to your taste and child will more likely eat it
After completing exam, please answer the following questions. All information will remain confidential. Thank you.

_____ Age _____ Number of children (excluding unborn) _____ Are you pregnant now?

Income Level: Race: Educational Level
__ Under $10,000 __Caucasian\White __less than 8th grade
__ $10,000-20,000 __African-American\Black __some high school
__ $20,001-35,000 __Asian __High School Diploma or GED
__ $35,001-50,000 __Hispanic __Some college
__ Over $50,000 __Bi-racial __College graduate
 __Other __Beyond college

If pregnant now, where are you receiving prenatal care?
__Health Dept.
__Private Physician
__Midwife
__Other: ____________

If this is not your first child, where did you receive prenatal care for your youngest child?
__Health Dept.
__Private Physician
__Midwife
__Other: ____________