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Using the Transtheoretical Model to Establish the Impact of a Limited Ultrasound on the Decision-Making Process During the First Trimester Pregnancy: A Pretest-Posttest Design

Deborah A. Turner-Johnson

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Using the Transtheoretical Model to Establish the Impact of a Limited Ultrasound on the
Decision-Making Process During the First Trimester Pregnancy:
A Pretest-Posttest Design

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Nursing

By

DEBORAH ANN TURNER-JOHNSON
B.S.N. North Carolina A & T State University, 1989

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Signature Page

CEDARVILLE UNIVERSITY

SCHOOL OF NURSING

28 August 2013

WE HEREBY RECOMMEND THAT THE THESIS PREPARED

BY

Deborah Ann Turner-Johnson

ENTITLED

Using the Transtheoretical Model to Establish the Impact of a Limited Ultrasound
on the Decision-Making Process During the First Trimester Pregnancy:
A Pretest-Posttest Design

BE ACCEPTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING

Amy Voris DNP, RN, CNS
Professor
Committee Chair

Sharon K. Christman PhD, RN
Professor
Committee Member

Dennis Sullivan MD, MA (Bioethics),
FACS
Professor
Committee Member

Chu Yu Huang PhD, RN
Professor
Director of Graduate Nursing

ABSTRACT

Worldwide, nearly one fourth of all pregnancies end in abortion (WHO, 2007). In the United States, almost 50% of all pregnancies are unintended, and of those, nearly 40% end in abortion. These statistics are alarming, and there are many organizations in North America who are working to lower these abortion rates. One intervention, which has gained widespread popularity among pro-life organizations, is a limited ultrasound. While the general belief among pro-life groups is limited ultrasounds are beneficial in reducing abortion rates, there is a paucity of evidence in this area. Recently, two published reports suggest ultrasound viewing does not result in the abortion rate decline, (Weitz and Karasek, 2010; Kimport, 2012). However, individual Pregnancy Resource Centers (PRCs) have provided input to suggest the use of limited ultrasounds has increased the percentage of women choosing life after they see their baby via ultrasound, (Piotrowski, Childs, & Keroack, 2004). Also, abortion rates began to decline at the same time ultrasounds started to be used widely as a diagnostic tool for pregnancy, (Gius, 2011). The question many healthcare workers ask is; “should ultrasound images be viewed prior to an abortion” and “what impact could this have on the woman’s decision to abort her pregnancy?” Guided by the Transtheoretical Model, the purpose of this study is to describe the stage of change for abortion in women who are less than 13 weeks pregnant before and after a limited ultrasound. Stage of change for abortion and the woman’s perception of the impact of the ultrasound were measured using a questionnaire designed by the primary investigator.

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Chapter 1

INTRODUCTION

The word *abortion* elicits varying responses among those living in North America. Furthermore, providing limited ultrasounds to women who are considering abortion is very controversial. Despite the controversy surrounding elective abortions and ultrasounds, reducing the number of unintended pregnancies is one of the most important reproductive health goals identified by the United States Department of Health and Human Services, (USDHH, 2010). Unintended pregnancies are defined as ‘mistimed, unplanned, or unwanted at the time of conception, (CDC, 2013; Santelli, Rochat, Timajchy, Gilbert, Curtis, Cabral, Hirsch, & Schieve, 2003). According to the Guttmacher Institute (2013), by age 45 about half of American women will have had an unintended pregnancy. A 2011 study reported that 48% of pregnancies were unintended, down from 49% in 2006 (CDC, 2013; Finer & Zolna, 2011). The proportion of unintended pregnancies ending in abortion decreased from 47% in 2001 to 43% in 2006 as the unintended birth rate increased from 23 to 25 per 1,000 women 15-44 years of age (Finer & Zolna, 2011). Even though the percentage of unintended pregnancies declined, four out of five pregnancies were unintended, among women aged 19 years of age and younger (CDC, 2012). There is a strong correlation between the number of unintended pregnancies and abortions, with almost half of unintended pregnancies ending in abortion (Santelli, Speizer, Avery, & Kendall, 2006).

Whether providing limited ultrasounds to abortion-minded women results in abortion-rate decline *has not been established*. Some authors say over 90 percent of expectant mothers, considering abortion choose life after seeing an ultrasound image of the baby (Piotrowski, Childs, & Keroack, 2004; Chandler, 2006), yet others say seeing a limited ultrasound is just as likely to result in a decision to abort (Kimport, Preskill, Cockrill, & Weitz, 2012). In 2009, Hofmeyr reported offering a limited ultrasound to abortion-minded women and allowing them to view the image before an abortion was beneficial to women from every socioeconomic status. Furthermore, when asked, up to ninety percent of women stated they should have the option to see the ultrasound image (Bamigboye, Nikodem, Santana, & Hofmeyr, 2002; Graham, 2010; Hofmeyr, 2009; Lockwood, 2010; Weibe, 2009).

Statement of Problem

Is the decision to terminate a pregnancy affected by the performance of a limited ultrasound during the first trimester pregnancy?

Statement of Purpose

The purpose of this study is to describe the stage of change for abortion in abortion-minded or undecided women who are less than 13 weeks pregnant before and after a limited ultrasound.

Research Questions

The research question for this study is: Does a limited ultrasound impact the stage of change in an abortion-minded or undecided woman during the first trimester of pregnancy, less than 13 weeks gestation?

Summary

Though the number of unintended pregnancies is increasing, the number of unintended pregnancies ending in abortion is decreasing. The fact remains most abortions (more than 90%) are performed in the first trimester, with two thirds of those before the 13th week of pregnancy (US DHH, 2012). The aim of this study is to see if limited ultrasounds have an impact on the outcome of unintended pregnancies among abortion-minded and undecided women.

Chapter 2

REVIEW OF LITERATURE AND THEORETICAL MODEL

Introduction

In the U.S. 24 states have mandated an ultrasound be provided prior to an abortion (HB 462, 2012; Guttmacher Institute, 2012). In the United Kingdom (UK), the Royal College of OB/GYN Guidelines (2004) recommend that before she has an abortion, a woman should have access to ultrasound scanning, particularly where gestational age is in doubt or where there is the possibility of an extrauterine pregnancy (Graham, Ankrett, & Killick, 2010). Yet ultrasounds before an abortion are not routinely performed in the UK (Singh, 2008).

Both Pregnancy Resource Centers (PRCs), which do not perform abortions and Women's Health Clinics (WHCs), which provide abortions, perform limited ultrasounds during the first trimester of pregnancy to determine the number of fetuses, detect fetal heart motion, determine gestational age, and provide the woman the opportunity to make an informed decision (AIUM, 2007).

PRCs and WHCs, both practice under the guidelines set forth by the American Institute in Ultrasound Medicine (AIUM, 2007), American College of Obstetricians & Gynecologist (ACOG, 2013), and American College of Radiology (ACR, 2011). WHCs also practice under the policies established by the National Abortion Federation (NAF, 2011). Pregnancy Resource Centers operate from a pro-life point of view, while

Women's Health Clinics practice under a pro-choice worldview. From now on, the term "Women's Health Clinic," will be used to refer to clinics that provide abortion services.

Assumptions

Pregnancy Resource Centers and Women's Health Clinics are increasingly adding the viewing of an ultrasound to counseling and education. While PRC's provide limited ultrasounds for the purpose of persuading the mother to carry her child to term (Piotrowski, Keroack, & Childs, 2004), abortion rights advocates express concern the ultrasound can cause unnecessary emotional trauma (Kimport, Perskill, Cockrill, & Weitz, 2012).

Ultrasound and Pregnancy Resource Centers (Pro-Life)

Pregnancy Resource Centers are philosophically and practically pro-life institutions with a stated goal of discouraging women from having an induced abortion by showing her through ultrasound the human personhood of her child (Bamigboye, et al., 2002; Hofmeyr, 2009; Kimport, et al., 2012). These centers provide the abortion-minded and undecided woman the option of having an ultrasound, the choice of viewing the screen, and hearing the fetal heart beat, in hope of expressing strong emotions toward the unborn baby (Sinha, Pradhan, & Chowdhury, 2004; Sullivan, 2002).

Ultrasound and Women's Health Clinics (Pro-Choice)

Women's Health Clinics, which provide abortion services, believe women should have a choice to view or not to view the screen during the ultrasound, regardless of the circumstances (Stout, 2012). Women's Health Clinics use ultrasound to ensure there will be no complications during the abortion procedure due to incorrectly calculated gestational age. Women's Health Clinics are at best ambivalent about whether the clients

have an abortion, and at worst actively encourage women to have an abortion (Sullivan, 2002; Graham, et al., 2010). Previous studies report some WHCs do not give women the option to have an ultrasound or view the screen, unless state mandated, in hope of not creating unnecessary guilt (Sullivan, 2002; Wiebe & Adams, 2009; Guis, 2011). Abortion advocates believe women should not have to confront difficult decisions when faced with unintended pregnancies and should not be given an option to view the image (Graham, et al., 2010).

Impact of viewing the limited ultrasound

In 2009, Wiebe and Adams completed a study to gain a better understanding of women's perceptions and experiences of viewing the ultrasound before an abortion in order to improve the quality of counseling and client/provider communication. Using a mixed method descriptive research design, they surveyed 254 pregnant women. The sample consisted of three groups based upon gestational age: 31% were at less than six weeks' gestation (only a gestational sac visible); 50.8% were between six and nine weeks (some recognizable features); and 18.1% were between 9 and 14 weeks (limbs are clearly visible). Of those surveyed, 73% chose to view the ultrasound image and of those 85% reported it as a positive experience. The women's mean age in years was 26.8; with a mean gestational age in days from last menstrual period (LMP) of 51.1, (approximately 7 weeks). The authors concluded prior to an abortion, women should be given the option of viewing the image of the fetus, (Wiebe & Adams, 2009). Limitations of this study were a high refusal rate (50%) for interviews and there was no reliability and validity reported for their measurement tool (Wiebe & Adams, 2009). Since completing their study, they

have made it a standard in their clinics to ask all women preparing for a medical or surgical abortion whether they want to view the ultrasound.

In 2002, Bamigboye, Nikodem, Santana, and Hofmeyr, studied 500 South African women between the gestational ages of 6-12 weeks considering abortion. They reported 64% of the women had a preference to view their ultrasound image prior to an abortion. These researchers also reported women commented that looking at scan images could affect their decision to have an abortion, changing a decision they did not want to change. Those who chose not see the ultrasound image gave reasons such as: certainty of decision, potential impact on decision, and potential psychological impact. After viewing the ultrasound image 52% of the sample thought the effects of seeing the scan would make them less likely to go ahead with the abortion, where 47.4% thought it would make no difference to their decision. Furthermore, there was no evidence that not viewing the screen impacted the women's decision to carry to term or have an abortion.

In 2010, Graham, Ankrete, and Killick described the attitudes of both the women having a pre-abortion ultrasound and their sonographers toward ultrasound viewing by pregnant abortion-minded women. In contrast to other published reports, these researchers reported that nearly 70% of women surveyed did *not* want to see the ultrasound image. Reasons for not wanting to view the image were 1) certainty of their decision, 2) possible impact on their decision, and 3) possible psychological effects. However, 24% of women who did not ask to see the ultrasound image would have actually liked to see it. Of the sonographers who responded, the majority preferred the women not view the ultrasound images. The sonographers expressed concern about the potential psychological effects on the women, and also expressed their own difficulty

with the situation. The sonographers concerns were related to 1) making the decision more difficult for the women, and 2) make the situation more uncomfortable for the sonographer (Graham, et al, 2010). The implication of these results is both women and their sonographers believed viewing an ultrasound before an abortion could influence the woman's decision to abort. These researchers concluded women should be able to decide if she would like to view the images as a matter of personal choice.

In 2011, Guis conducted a descriptive correlational study to determine if ultrasound requirement laws had any effect on the individual decisions about abortion. He reported the odds of a woman having an abortion in a state with an ultrasound law were only 25% increased compared to the odds of a young woman having an abortion who lived in a state without such a law (Guis, 2011).

Most recently Kimport, Preskill, Cockrill, and Weitz (2012) conducted in-depth interviews with 20 respondents who received an ultrasound as part of their abortion care. The purpose of this study was to examine the effects of ultrasound viewing in unwanted pregnancies. These authors concluded ultrasound viewing did not have a singular effect. Other findings in this study were: 1) women embraced the opportunity to view the ultrasound, even as they felt no shame about their plan to terminate the pregnancy; 2) women felt it was important to view the ultrasound prior to the abortion, despite the emotional difficulty felt; 3) women felt it was important to view the ultrasound prior to the abortion, in part to honor the complexity of one's choice and recognize the fetus; 4) ultrasound viewing caused some emotional difficulty; 5) ultrasound viewing resulted in some women carrying their child to term; and 6) Ultrasound viewing resulted in cementing the women's decision to abort.

Summary

In the literature reviewed, pregnant women unanimously express the attitude that ultrasound viewing *should be available before an abortion but not required*. However, the evidence is still unclear as to whether ultrasound viewing has a significant impact on a women's decision to carry her baby to term or electively abort her baby. Additionally, no study has been conducted to investigate the question of abortion decision making using a decision-making theory.

THEORETICAL MODEL

The transtheoretical model (TTM) is a model of intentional change. It was originally explained in 1983, by Prochaska and DiClemente, (Prochaska & DiClemente, 1983; Butts & Rich, 2011). It focuses on the decision making of the individual, (Zimmerman, Olsen, & Bosworth, 2000). There is a series of five stages an individual goes through to achieve change: precontemplation; contemplation; preparation; action; and maintenance (Butts & Rich, 2011; Glanz, 2011). The stages were initially applied to changing health behaviors but have been applied to specific health syndromes (obesity, depression, anxiety), lifestyle modification (STI prevention, smoking cessation, domestic abuse), and addictive disorders (alcohol, substance abuse), (DiClemente, Prochaska, Fairhurst, Velicer, Velasquez, & Rossi, 1991; Norcross, Krebs, & Prochaska, 2010). Change in behavior usually occurs gradually, with individuals moving from being uninterested, unwilling, to considering a change, to deciding and preparing to change, (Norcross, et al., 2011). I believe that abortion-minded women can change their decision

to abort very quickly (minutes) or more slowly (weeks). However, in Ohio, abortion is only legal until viability, so a woman's decision to abort must be made before that time. The 129th General Assembly of the State of Ohio, House Bill Number 78, Ohio Revised Code 2919.16 defines viable as, "the stage of development of a human fetus at which there is a realistic possibility of the maintaining and nourishing of a life outside of the womb with or without temporary artificial life-sustaining support." According to the Ohio Viability Law (2011), viability testing begins at 20 weeks gestation, during the initial abortion counseling.

In this study, four stages of change, (precontemplation, contemplation, preparation, and action), as described by the transtheoretical model and adapted for abortion intention, were measured to determine the impact of limited ultrasounds on a woman's intention to abort or carry her pregnancy to term.

I proposed abortion-minded or undecided women will come in to the appointment at the PRC in either precontemplation or contemplation stages for carrying her pregnancy to term. This means she is not even considering carrying the pregnancy to term (precontemplation), or she has started to consider carrying the pregnancy to term, but still feels the barriers outweigh the benefits (contemplation). In addition, contemplation is the stage where the mother looks at the effect a baby will have on the rest of her life and the support and/or opinions of others (Beaulieu, 2011). I proposed the majority of the women who viewed their ultrasound would move at least one stage of change toward action. This means those who are in the precontemplation stage will at least move into contemplation and those in contemplation will move into preparation. For abortion-minded women, preparation is the stage where the woman considers carrying the baby to term, however,

abortion is still an option. For abortion-minded women, action is the stage where she had made up her mind to go through with the pregnancy, she recognizes her confidence in her ability to anticipate problems, recognize support and move forward. Relapses do occur and is a normal part of the change process.

Chapter 3

METHODOLOGY

Design

The design for the study was a pretest-posttest design, using women who are less than 13 weeks' gestation.

Setting

The sites for the study were three pregnancy resource centers in southwest Ohio. The parent organization of these PRCs operates six Women's Centers in Ohio, with the largest (Site 1) seeing 1,971 clients for pregnancy tests and conducting 1,073 ultrasounds in 2012. The other two sites for this study were a bit smaller with the following 2012 statistics: Site 2 saw 648 clients for pregnancy test and conducted 374 ultrasounds. Site 3 saw 1,135 clients for pregnancy test and conducted 856 ultrasounds. Permission to use these facilities was obtained prior to the start of this study (Appendix A).

Subjects/Sample

The sample was recruited from three PRCs. The inclusion criteria were: female; able to understand/read/speak English; a positive pregnancy test; less than 13 weeks gestation based on LMP; and expressed a desire to abort her pregnancy, or was undecided about carrying her pregnancy to term. Women who were uncertain of their LMP and wished to participate were allowed to do so, however, their data was not included in the final analysis if the ultrasound revealed a gestational age outside the 5-13 week range.

Exclusion criteria was an expressed commitment to carry the pregnancy to term upon arrival to the PRC, and greater than or equal to 13 weeks gestation.

Data Collection

Women arrived at the PRC and completed an intake form which is the standard PRC paperwork. Each woman then went into a consultation room with a PRC consultant. Consultants in PRCs are required to have a bachelor's degree in a related field and experience in a pregnancy resource center is preferred. At the end of the consultation, the consultant offered the woman an opportunity to learn about the current research study. If the client had an interest in participating in the study, the consultant summoned the primary investigator (PI). The PI informed the client about the study's purpose, risks, and benefits. Once a woman agreed to participate in the study, the informed consent was reviewed and signed, by the participant, and witnessed and signed by the PI. A copy of the consent was given to the participant. The research then gave the participant a package with the demographic questionnaire, the initial questionnaire (pre-test), the second questionnaire (post-test) and an envelope (Appendix C). The participant was given the opportunity to fill out the questionnaires in private. Once she completed the pre-test, she had a limited ultrasound, and then completed the post-test. Once completed, she placed both questionnaires in the attached envelope, sealed it and returned the envelope to the PI or a staff member. It is standard practice during the limited ultrasound to provide the client an opportunity to view the TV monitor and hear her baby's heartbeat. If she elected not to hear the heartbeat, it was calculated in the M-mode, base off heart motion. The researcher and consultants were available if the client desired to talk after she completed

the questionnaires. No conversation took place prior to sealing the envelope, as not to influence her responses.

Measurement methods

Gestational age was calculated from the first day of the last menstrual period (LMP). If LMP was not known, gestational age was calculated by the limited ultrasound. Therefore, 5-13 weeks gestation was defined as 5-13 weeks from the first day of LMP. The first trimester represents 1 week to 12 weeks 6 days, (AIUM, 2007). Furthermore, the participant was told the gestational age of her pregnancy, based on the limited ultrasound, and she was asked to document this during the post-survey. The sonographer was asked to document gestational age on a separate piece of paper, next to the number on the participant's envelope. This information was collected by the primary investigator (PI) at the completion of the study, July 16, 2013.

Limited ultrasound examinations are ordered to obtain specific information. An ultrasound exam is a technique which utilizes high frequency sound waves, to scan a woman's abdomen and pelvic cavity. The transducer sends out and receives sound waves in order to capture an image of the fetus during pregnancy (AMCOG FAQ025 0 Special Procedures, 2011). During the first-trimester, a transabdominal ultrasound, (placing the abdominal probe on the abdominal wall), and transvaginal ultrasound (inserting the vaginal probe in the vagina), are done to view the uterus, the cervix, the ovaries and the fallopian tubes for the presence of a gestational sac. The gestational sac is evaluated for the presence or absence of a yolk sac and/or fetus. If the fetus is viewed, the crown-rump length is measured to determine the gestational age. The crown-rump length is a measurement from the top of the baby's head to the end of the tail bone. According to the

AIUM guidelines, the crown-rump length is a more accurate indicator of gestational age than LMP calculation (AIUM, 2007). In this study, a limited ultrasound was used to confirm the presence of an intrauterine pregnancy, estimate gestational age, identify the number of fetuses, and to confirm the presence of or lack of cardiac activity, (AIUM, 2007).

Stage of change for abortion was measured using the Stages of Change for Abortion Survey (SOCFAS) parts A (pre-test) & B (posttest). It was created by the primary investigator (PI). Some of the questions are based on Dr. Santelli's questionnaire, Unintended Pregnancy Project – Phase II (Santelli, Speizer, Avery, & Kendall, 2006). Permission to use the questionnaire was obtained (Appendix E), along with a copy of the questionnaire (Appendix F). The pre-test included 12 multiple-choice questions including baseline demographics, including age, race, education, pregnancy history, social support, and intentions of the pregnancy, to assess her stage of change for abortion. The post-test included only the stage of change for abortion multiple choice question. The participant was also asked to give her estimated due date or gestational age, based on the limited ultrasound on the post-test.

Ethical and Legal Considerations

Cedarville University's Institutional Review Board (IRB) granted approval for the study to ensure patient protection and ethical integrity of the research (Appendix D). Upon completion of routine PRC counseling and after explanation of the study, informed consent was obtained (Appendix B). Participant information and identity was protected with the highest confidentiality. The surveys were self-administered and the participants

were instructed not to put personal identifiers such as their name on the surveys. Surveys were numbered to be able to match pre- and post- surveys.

According to the Ohio Minor Law, under the age of 18, a parent, or legal guardian must accompany a minor during the Pre-Abortion Visit to provide their informed consent. The law provides three exceptions for minors: 1) there is an affidavit with the juvenile court and a sibling over 21, a stepparent or grandparent be substituted for a parent; 2) received a judicial bypass from the Juvenile Court; and 3) declared an emancipated minor (employed and living on your own, or independent from the care and control of parents or married.) (Ohio Revised Code, 2012). Due to the sensitive nature of the information being obtained in this study the Cedarville IRB approved the study but did not require parental consent for minors to participate in the study.

Timeline

Demographic data and the SOCFAS Part A were measured at baseline, and SOCFAS Part B was measured immediately after the ultrasound. Time between the pretest and posttest was approximately 20-25 minutes. It took each participant about four minutes to complete the pretest, and about two minutes to complete the posttest.

Data Analysis

Data were analyzed using SPSS (Statistical Packages for the Social Sciences) for Windows (version 21, SPSS Inc., Chicago, IL). Descriptive statistics including mean, median, mode, standard deviation, frequency, and percentage were used to present demographic characteristics and the responses to Part A and Part B of the questionnaires. Chi-square analysis was used to examine differences in individual characteristics and

their stage of change for abortion before and immediately after a limited ultrasound. A p value ≤ 0.05 was considered statistically significant.

CHAPTER 4

RESULTS

Participants

Eighty-five (85) women were seen in the PRCs during the collective time for pregnancy tests and/or ultrasounds. Forty (40) were eligible to participate in the study and thirty-three (33) refused to participate with a final sample size of ten (10), resulting in a refusal rate of 83.5%. Of the 10 women who were enrolled, no one dropped out.

Demographic Profile

Table 1 presents demographic characteristics for all respondents. The age ranged from 17 to 33 years ($M = 24$, $SD = 4.397$). Most of the participants identified as African American (60%), single (60%), living alone (50%), finished high school or completed their GED (100%), and half were employed. Participants were under their parent's insurance (30%), followed by employer (20%), and then public aid (10%). The majority (90%) had gestations of 8 weeks or less according to the ultrasound, and one was 8 weeks and 2 days. Based on the responses, only one participant has a history of a previous abortion.

Table 1. Demographics

Demographic characteristics	<i>n</i> = 10
Age	Mean: 24 ± 4.397
Race	
AA	6
Caucasian	2
Other	2
Relationship	
Single	4

Married/engaged	2
Relationship > 2 yr	4
Living arrangements	
With parents	2
With boyfriend/father of baby	1
With friend/roommate	2
Alone	5
Education level	
HS/GED completed	3
Some college	5
Completed 2-year	2
Desire to finish school/go to college	
Yes	8
No	2
Employment	
Employed	5
Unemployed	5
Insurance	
Yes	8
Provider	
Employer	2
Under parent	3
Public aid	1
Missing	4
No	2
Number of pregnancies (including present pregnancy)	
1	4
2-3	3
Greater than 4	3
Number of live births	
0	4
1	2
2	2
3	2

Stage of Change for Abortion

The results of the SOCFAS can be found in Table 2. At baseline, the majority of participants (50%) were in the preparation stage of change to the ultrasound. After the limited ultrasound, the posttest showed the majority of the participants (60%) were in the action stage of change. Individual pretest-posttest results can be found in table 3.

Table 2. Stage of Change for Abortion

Survey questions	Part A Regardless of my ultrasound:	Part B After seeing my ultrasound:
	<i>n</i>	<i>n</i>
Abortion is my only choice.	1	1
Abortion is my best choice.	1	1
Carrying my pregnancy to term is a choice & abortion is also a choice.	5	2**
Carrying my pregnancy to term is a choice & abortion is not a choice.	3	6**

Note. ** $p = .012$ compared to Part A

Table 3. Pretest-Posttest Individual Results

Participant	1	2	3	4	5	6	7	8	17	18
Pretest	D	C	B	A	C	D	C	C	D	C
Posttest	D	C	B	A	D	D	C	D	D	D

Note. A - precontemplation; B – contemplation; C - preparation; D - Action

Chapter 5

SUMMARY

The results of this study showed that thirty percent of abortion –minded women who underwent a limited ultrasound moved one stage of change toward a decision to carry their pregnancy to term. While the majority of participants were in the preparation stage of change at baseline, upon review of each of their intake form, at the time of their arrival to the PRCs all of the women stated they desired to abort their pregnancy or were undecided. While this change was not statistically significant at the 0.05 level, we believe this change is clinically significant, and that with a larger sample size, statistical significance would be achieved. Furthermore, according to the intake form that each woman completed upon arrival to the PRC, all women were either abortion minded (4) or undecided (6) when they came to the PRCs; and when they left the PRCs six of them believed abortion was no longer a choice, and two believed carrying the pregnancy to term was now a choice.

Discussion

No study to date has quantitatively reported the impact of limited ultrasound on a woman's decision to terminate or carry her pregnancy to term prior to an abortion. Furthermore, no abortion study has been guided by a widely used behavior change theory. This study represents the first attempt to examine the stage of change for abortion in abortion-minded or undecided women, prior to and immediately following a limited

ultrasound. It is a strength of the study that the pretest was administered *after* the PRC counseling that was offered as part of the routine PRC services, so that any change found in the SOCFAS was purely a result of the ultrasound, and not the counseling. The results do not fully confirm the study hypothesis that the majority of abortion-mind or undecided women would move at least one and possibly two stages of change toward action after viewing the ultrasound. However, it does suggest limited ultrasounds have some impact on a mother's decision. Even though these findings need confirmation in future research, they may be important given the fact that elective abortions are common medical procedures in Ohio. The World Health Organization recently issued technical and policy guidelines for safe abortions worldwide. The guidelines set the standards for abortions provided at the primary care level on an outpatient basis (WHO, 2013). Two recent studies support these guidelines and encourage family practice providers to help eliminate the barriers that make legal abortion inaccessible to women (Yanow, 2013; Logsdon, Handler, & Godfrey, 2012). According to the study done by Logsdon, Handler & Godfrey (2012), women prefer to see their primary care provider for early abortion services. The WHO guidelines (2013) suggest that abortions can be performed in the primary care clinic without the use of ultrasounds. However, some state laws might impact the practice of ultrasounds prior to abortions. If abortions are going to be the standard of care in primary care, providers should desire to know the impact limited ultrasounds have on a woman's decision concerning her unwanted pregnancy.

There are certain factors that may have influenced the results of this study. First, the consultation that was provided to the participants prior to completing the pretest likely was an extraneous variable. We believe the consultation where the consultant and

the participant discussed her options had some impact on her response on the pretest. One way to control this variable in the future would be to measure the SOCFAS before any consultation or counseling is initiated.

Second, because the SOCFAS was a new tool, the reliability and validity has not been established. Foster, Gould, Taylor, and Weitz (2012) used the following statements to assess participants confidence in their decision to have an abortion: “I am sure of my decision to have an abortion”; “I want to have the baby instead of abortion”; “I want to put the baby up for adoption instead of an abortion”; and “Abortion is a better choice for me at this time than having a baby.” Their statements factored in the adoption option, which was not part of this research study. However, the SOCFAS needs to be used in more and larger research studies, so reliability and validity can be determined.

Third, this study had a large refusal rate. While the reason for this is not clear, some possible reasons are: 1) overwhelmed by information; 2) psycho-social reasons; 3) demographic reasons, such as younger age; 4) saw no benefit or incentive in participating to them or their decision; 5) additional time and effort need; and 6) just refused for no given reason.

Limitations

This study suffers from limitations common to other studies about abortion. First, the sample size resulted in low power and a failure to achieve “significance” (Grove, 2007). Because of the high refusal rate, yielding a large enough sample size would require six to twelve months of recruitment. Second, the PRC setting limits the generalizability to PRCs only. Recruitment of abortion-minded women from Women’s Health Centers possibly would have yielded different results.

Implications

Ultrasound plays a valuable role in both Pregnancy Resource Centers and Women Health Clinics. According to the AIUM and ACOG guidelines for prenatal ultrasound, both clinics are medically justified in using it for the limited purpose of determining gestational age, number of fetuses, and cardiac motion. Understanding the impact of limited ultrasounds on a woman's decision to carry her baby to term or abort her baby was not unequivocally determined in this study. However, this study shows that continued investigation into the relationship between limited ultrasounds and abortion decision-making has promise.

Recommendations

There is a need for replication of this study in order to establish the impact of limited ultrasound on an abortion-minded or undecided woman's stage of change for abortion. Sample size, time, and site are all factors to consider in future research. This being a pilot study, future researchers might consider running a power analysis and conducting the study for a longer time periods to assure an adequate sample size. Future researchers might also consider variables that may influence the decision-making process of an abortion-minded woman. This may include the initial consultation and support or lack of support during the decision process. Another thing to consider in future studies is why clients refuse to participate in a study such as this and determine if there is a trend or reason for refusal that might affect future study findings.

Based on the results of this study, it is possible to conduct a study immediately around the initial ultrasound, and determine the impact of limited ultrasound on a woman's decision concerning her unwanted pregnancy. This study showed that limited

ultrasounds have an impact on a woman's decision to abort or carry to term in PRCs, but must be verified with future studies incorporating a larger sample and multiple sites.

According to Charmaine Yoest, president & CEO of American United for Life (AUL, 2013); "each day women across our nation contemplate a life-changing decision to abort or not to abort their unborn child. Reasons for abortions vary from person to person but the results are the same: one wounded and one life lost." The impact of a limited ultrasound on an abortion-minded or undecided woman's decision is still yet to be determined, however, it appears this intervention has the potential to increase the likelihood of an abortion-minded woman not aborting her unborn baby.

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Appendices

Appendix A: Cover Letter

April 22, 2013

Vivian Koob
Elizabeth's New Life Center, Executive Director
359 Forest Ave, Suite 203
Dayton, OH 45241

RE: Permission to Conduct Research Study

Dear Vivian Koob,

I am writing to request permission to conduct my research study at the Women's Center – Dayton, Women's Center - Kettering, and Women's Center – East, all branches of Elizabeth New Life Center. As a part of my capstone experience in the Master of Science in Nursing program, School of Nursing, Cedarville University, I am working on my thesis titled, "Using the Transtheoretical Model to Establish the Impact of a Limited Ultrasound on the Decision-Making Process of a 5-8 Weeks Gestation vs. a 9-12 Weeks Gestation Pregnancy: A Pretest-Posttest Two-Group Design."

My goal is to recruit 50 clients total, (25 at 5-8 weeks, and 25 at 9-12 weeks gestation). Due to the sensitivity of the study, participation will be **totally voluntary**. The clients will be asked to anonymously complete a pre-questionnaire and post-questionnaire (copy enclosed), in conjunction with their ultrasound. Interested clients, who **volunteer** to participate, will be given a consent form to be signed and returned to the primary researcher, prior to the pre-questionnaire. I will be available in the center during the collection of data for approximately 6 weeks. Leah Pearson, RDMS will be the sole sonographer for this study. My days will be arranged with the center managers, Dawn Oppy, Erica Schwieterman, and Kerry Braun prior to starting the study.

If approval is granted, participants will complete the questionnaires privately. The data collection process, will last no-longer-than two (2) hours, from the time of initial consultation to the exit questionnaire. The questionnaires results will be collective for the thesis project and individual results of the study will remain absolutely confidential and anonymous. Should this study be published, only collective results will be documented. No costs will be incurred by either the center or the individual participants. The results of study will be available to you, the centers and the organization.

Your approval to conduct this study will be greatly appreciated. I am available and happy to answer any questions or concerns that you may have at this time. You may contact me at my email address: daturnerjohnson@cedarville.edu or by phone 937.864.0211 (h); 937.241.1688 (c).

If you consent to the study, please sign below and return the signed form in the enclosed self-addressed envelope.

Sincerely,

Deborah A. Turner-Johnson, RN, BSN
FNP Student, Cedarville University

Enclosures: Questionnaires (Pre- and Post-); consent

cc: Dr. Amy Voris, Research Advisor,

Approved by:

VIVIAN Koob
Print your name

Executive Director
Title

Vivian Koob
Signature

4/22/13
Date

Appendix B: Consent

Informed Consent

Title of Pilot Study: Using the Transtheoretical Model to Establish the Impact of a Limited Ultrasound on the Decision-Making Process of a 5-8 Weeks Pregnancy vs. a 9-12 Weeks Pregnancy: A Pretest-Posttest Two-Group Design

Student Researcher: Deborah A. Turner-Johnson, School of Nursing, Cedarville University

Faculty Advisor: Dr. Amy Voris, DNP, School of Nursing, Cedarville University

You are invited to participate in a research study to see if a limited ultrasound (sonogram) impacts your decision, concerning your pregnancy. You were selected as a possible participant because you are pregnant, in the first trimester (5-12 weeks) of your pregnancy, and are either undecided or considering to abort your pregnancy.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to complete a survey prior to your limited ultrasound (some of the same questions you have already answered on your client information sheet) and one after your limited ultrasound, privately. You will then place both surveys in an envelope (provided), seal it, and give to a staff member or researcher once you are done. Your total time commitment will be approximately 20 minutes, from the first survey to the second survey, including the limited ultrasound. The questions themselves will take approximately 5 minutes.

The **limited ultrasound** determines the number of baby(ies), detects fetal heart motion, determines gestational age, and determines if the pregnancy is located in uterus.

Are there any risks or discomforts? There are no foreseeable risks expected by participating in this study.

If you change your mind about participating, you can stop taking part of the study at any time during the study. Your participation in this study is **completely voluntary**. If you decide not to participate or to withdraw from the study it will have no impact on any services you are currently receiving. Being part of this study may help us learn how to better serve other women.

Your privacy will be protected. Any information obtained in connection with this study will remain nameless and private. While the information you provide may be used to fulfill an educational requirement and there may be publications as a result of this study, your name will not be used. At no time will your identity be linked to your responses on the surveys. Please do not place your name on the questionnaire. There will be a number on the surveys, and the same number on the envelope. At no time will your name be matched to your answers on the surveys, but will be based on the number on surveys.

If you have questions about this study, please ask them now or contact Deborah Turner-Johnson at 937.228.2222 or 937.643.4673. A copy of this document will be given to you to keep.

I have read the above information and am voluntarily (willingly) participating in this study.

_____ Date: _____
Participant's Signature

Printed Name

_____ Date: _____
Investigator obtaining consent

_____ Date: _____
Printed Name

Appendix C: Instrument

STAGES OF CHANGE FOR ABORTION (SOCFA) Survey:

Title of Pilot Study: “Using the Transtheoretical Model to Establish the Impact of a Limited Ultrasound on the Decision-Making Process of a 5-8 Week Gestation vs. a 9-12 Week Gestation

Pregnancy: A Pretest-Posttest Two-Group Design

Please check the appropriate box.

1. Race/ethnicity

☐ African American

☐ White

☐ Hispanic

☐ Other

2. Age, in years: _____

3. Relationship status

☐ Single

☐ Relationship for greater than 2 years

☐ Relationship for less than 2 years

☐ Married/engaged

4. Living arrangements

☐ With parents

☐ With boyfriend/father of baby

☐ With friend/roommate

☐ Alone

☐ With husband

5. Education level

☐ 9th grade or less

☐ High school/GED completed

☐ Completed 2-year degree program

☐ 12th grade or less

☐ some college

☐ Completed 4-year degree program

6. Do you have a desire to finish school/go to college?

☐ YES

☐ NO

7. Employment

☐ Currently employed

☐ Unemployed

8. Do you have insurance?

☐ Yes

☐ NO

If yes, is provided by: Employer ☐, Under parents' ☐, Public aid/Medicaid ☐, or Other ☐

9. Number of pregnancies (includes current pregnancy)

☐ 1

☐ 2-3

☐ Greater than 4

10. Number of live births _____.

11. First day of last menstrual period (LMP) ____/____/____

SOCFA – Part A

Please mark one.

Regardless of my ultrasound:

- A. Abortion is my only choice. ☐
- B. Abortion is my best choice. ☐
- C. Carrying my pregnancy to term is a choice & abortion is also a choice. ☐
- D. Carrying my pregnancy to term is a choice, & abortion is not a choice. ☐

SOCFA – Part B

According to the ultrasound how far along are you or what is your due date?

Please mark one.

After seeing my ultrasound:

- A. Abortion is still my only choice. ☐
- B. Abortion is still my best choice. ☐
- C. Carrying my pregnancy to term is a choice, but abortion is also a choice. ☐
- D. Carrying my pregnancy to term is a choice, and abortion is not a choice. ☐

Scoring

For all questions:

Answer choice (A) – Precontemplation Stage (no recognition of need for or interest in change)

Answer choice (B) – Contemplation Stage (thinking about changing)

Answer choice (C) – Preparation Stage (planning for change)

Answer choice (D) – Action Stage (adopting new habits; taking action to change)

Appendix D: Committee Approval

8/12/13

Cedarville University Mail - Proposal approval

Turner-Johnson, Deborah A <daturnerjohnson@cedarville.edu>

Proposal approval

2 messages

Christman, Sharon K <christms@cedarville.edu>

Thu, Apr 11, 2013 at 10:59 AM

To: Deborah A Turner-Johnson <daturnerjohnson@cedarville.edu>, "Voris, Amy" <avoris@cedarville.edu>, Dennis Sullivan <sullivan@cedarville.edu>

Dear Deborah

I wanted to send you an email so you have a record of my decision.

I give full and unconditional approval for you to begin data collection, once IRB approval is obtained.

Regarding the stages of change questionnaire, I prefer forms A&B. I concur that it is not possible to measure maintenance at this time.

All my best to you.

Sharon

--

Sharon K Christman PhD, RN

Turner-Johnson, Deborah A <daturnerjohnson@cedarville.edu>

Fri, Apr 12, 2013 at 6:20 AM

To: "Christman, Sharon K" <christms@cedarville.edu>

Dr. Christman,

Thank you!

Deborah

[Quoted text hidden]

Appendix E: IRB Approval

Dear Deborah:

I am pleased to inform you that the Institutional Review Board has met (via email), and has approved your study: "Using the Transtheoretical Model to Establish the Impact of a Limited Ultrasound on the Decision-Making Process of a 5-8 Weeks Gestation vs. a 9-12 Weeks Gestation Pregnancy: A Pretest-Posttest Two-Group Design."

The additional documentation that you and your advisor provided allowed the Committee to waive the normal parental consent requirement for minors in research study participation, given the precedent for such waivers in other such confidential settings. In my opinion, it would be good to document these deliberations in the "Methods" section of your eventual paper. This will help should you seek publication of the paper in the future.

Best wishes with your data collection - let me know if I can help you in any way.

Blessings,

Dr. Dennis Sullivan

IRB Chair

Dennis M. Sullivan, MD, MA (Ethics)
Professor of Biology
(Human Biology, Bioethics)
Cedarville University

phone: [937-766-7573](tel:937-766-7573)

Appendix F: Requesting permission to use Questionnaire

From: Deborah A Turner-Johnson <daturnerjohnson@cedarville.edu>

Date: Sunday, July 29, 2012 12:18 AM

To: John Santelli <js2637@columbia.edu>

Cc: Deborah A Turner-Johnson <daturnerjohnson@cedarville.edu>

Subject: Use of research questionnaire

28 July 2012

Dear Dr. Santelli,

Let me introduce myself. My name is Deborah Turner-Johnson and I am a graduate student at Cedarville University in Cedarville, Ohio. I am working on a Masters in Nursing focusing in Family Nurse Practitioner. As a clinical nurse for many years (over 22 years), I presently do limited ultrasounds for a pregnancy resource center. Due to the debate today concerning the impact of limited ultrasounds on a women's decision to terminate or not, my thesis will be looking at the question: Is there a difference between a limited ultrasound at 5-6 weeks versus 10-12 weeks on the stage of change in abortion vulnerable women?

In doing my literature review, I am citing your article, "Research and practice. An exploration of the dimensions of pregnancy intentions among women choosing to terminate pregnancy or to initiate prenatal care in New Orleans, Louisiana, 2006"; which was published in *American Journal of Public Health*, as one of my references.

I am interested in looking at the questionnaire that you used in that study. I would like to have your permission to be able to use your questionnaire. I would be using some of the questions as part of my own questionnaire for my thesis project.

I would also be very appreciative of any studies or information that you may have in this area that I could include in my thesis. I hope to publish this information to inform other practitioners and nurses so they have a better understanding of the impact of an ultrasound on her stage of change.

You may email me with the questionnaire (daturnerjohnson@cedarville.edu) or any information that you may think is helpful. Or if you prefer you may send it to me at my home address. Please mail it to Deborah A. Turner-Johnson, 4701 Steeplechase Dr., Fairborn, Ohio 45324.

Again I thank you for your time and attention to this email and to my request.

Sincerely,

Deborah A. Turner-Johnson, RN, BSN

Appendix G: Permission to Use Questionnaire

Deborah, Here is our questionnaire. I hope it is helpful. John

Unintended Pregnancy Project (UIP) – Phase II

Version 9a

2/18/14

Section A. Pregnancy History

[These questions apply to all women.]

1. Have you ever been pregnant?

No skip to Section D
Yes

2. Are you currently pregnant?

No
Yes
(m/d/y)

ASK: What is your estimated due date ____/____/____

3. How many times have you ever been pregnant including live births, stillbirths, miscarriages, abortions, ectopic pregnancies and adoptions *[including this pregnancy – if currently pregnant in Q2 coded yes]*?

_____ number

[Based on the number of pregnancies indicated in question 3, computer will generate the matrix below to direct the respondent to the next set of questions. Begin with first pregnancy and continue to most recent or current pregnancy. The questions are asked for each pregnancy.]

Pregnancy order (after last pregnancy, skip to Section B)	4. What was the outcome of the pregnancy? <i>If current pregnancy, how many weeks?</i>	5. How old were you when you got pregnant? AGE____	6. Right before you became pregnant with your nth, did you want to have a baby at any time in the future? Yes or No (if NO, skip to next pregnancy)	7. Would you say that your nth pregnancy came too soon, at about the right time, or later than you wanted? (if right time or later, skip to next pregnancy)	8. How much sooner than you wanted did you become pregnant? 1 = <1 year 2 = 1-2 years 3 = >2 years
1 st pregnancy					
2 nd pregnancy					
3 rd pregnancy					
4 th pregnancy					
5 th pregnancy					

4. Outcome options: 1 = 1 baby; 2 = two babies; 3 = three babies; 4 = stillbirth; 5 = ectopic pregnancy;

6 = miscarriage; 7 = abortion; 8 = adoption; 9 = current pregnancy

7. Timing options: 1 = too soon; 2 = right time; 3 = later

[If current pregnancy is first, only ask first pregnancy series. This section is first pregnancy series.]

9. If you had to rate from 1 (wanted to avoid pregnancy) to 5 (wanted to get pregnant) how much you wanted or did not want a pregnancy right before your first pregnancy, how would have rated yourself?

10. How happy did you feel when you found out you were pregnant for the first time? On a scale from 1 (very unhappy to be pregnant) to 5 (very happy to be pregnant)?

43

13. You looked forward to telling your friends that you were pregnant. (Which number on the scale best describes how much of this feeling you had about becoming pregnant?)

1	2	3	4	5
(not at all)				(tremendous amount)

14. You thought that having a baby might improve your relationship with your partner. (Which number on the scale best describes how much of this feeling you had about becoming pregnant?)

1	2	3	4	5
(not at all)				(tremendous amount)

15. You were worried that you did [do] not have enough money to take care of this baby. (Which number on the scale best describes how much of this feeling you had about becoming pregnant?)

1	2	3	4	5
(not at all)				(tremendous amount)

16. You dreaded telling your friends that you were pregnant. (Which number on the scale best describes how much of this feeling you had about becoming pregnant?)

1	2	3	4	5
(not at all)				(tremendous amount)

17. You looked forward to buying things for a new baby. (Which number on the scale best describes how much of this feeling you had about becoming pregnant?)

1	2	3	4	5
(not at all)				(tremendous amount)

18. Right before you became pregnant for the first time, how much were you **trying to get pregnant** on a scale from 1 (not trying at all) to 5 (really tried hard to get pregnant)?

1	2	3	4	5
(not trying to get pregnant)				(really tried hard to get pregnant)

19. Right before you became pregnant for the first time, how much were **trying to avoid getting pregnant** 1 (did not try to avoid getting pregnant) to 5 (really tried to avoid getting pregnant)?

1	2	3	4	5
(not trying to avoid)				(trying to avoid)

20. When you found out you were pregnant for the first time, how surprised did you feel on a scale from 1 (not surprised at all) to 5 (very surprised)?

1	2	3	4	5
(not surprised)				(very surprised)

21. When you found out you were pregnant for the first time, how confused did you feel on a scale from 1 (not confused at all) to 5 (very confused)?

1	2	3	4	5
(not confused)				(very confused)

22. When you found out you were pregnant for the first time, how scared did you feel on a scale from 1 (not scared at all) to 5 (very scared)?

1	2	3	4	5
(not scared)				(very scared)

23. During the year before you became pregnant for the first time, did you use any birth control or protection?

No	SKIP TO Q29
Yes	

24. What birth control method(s) or protection were you using? (can say multiple methods)

Pill	Diaphragm
Shot	Foam
Condom	Norplant
IUD	Other _____
Withdrawal (pulling out before ejaculation)	

25. Were you using a birth control method when you became pregnant for the first time?

No	SKIP TO Q29
Yes	

26. What birth control method(s) or protection were you using when you became pregnant for the first time?

None	SKIP TO Q29	Diaphragm	SKIP TO Q29
Pill	SKIP TO Q28	IUD	SKIP TO Q29
Condom	SKIP TO Q29	Norplant	SKIP TO Q29
Shot	CONTINUE	Foam	SKIP TO Q29
		Withdrawal (pulling out before ejaculation)	SKIP TO Q29

27. You said you used the shot, did you ever miss an appointment for your shot during the year before you became pregnant for the first time?

Yes	
No	SKIP TO Q29

28. You said you were using the pill when you became pregnant for the first time, did you ever miss a pill?

Yes	
No	

29. Around the time you first became pregnant, about how often did you use the condom?

Every time	SKIP TO Q31
Sometimes	
Never	

[The following is asked of women who said that they did not want to get pregnant the first time they got pregnant (Q6) or that their first pregnancy came too soon (Q7) and that they were not using birth control during the year before (Q23) or when (Q25) they came pregnant. Else skip to Q31.]

30. You said that your first pregnancy came too soon [or was not wanted], why were you not using birth control when you became pregnant? ***[Interviewer, code Yes for all responses given.]***

I wanted to have a baby.	Yes	not mentioned
I was using a method/protection.	Yes	not mentioned
I did not expect to have sex.	Yes	not mentioned
I did not think I could get pregnant.	Yes	not mentioned
I did not really mind if I got pregnant.	Yes	not mentioned
I was worried about the side effects of birth control.	Yes	not mentioned
My male partner did not want me to use a birth control method.	Yes	not mentioned
My male partner did not want to use a birth control method/protection.	Yes	not mentioned
My male partner wanted the baby.	Yes	not mentioned
I could not afford to pay for birth control.	Yes	not mentioned
I did not know where to go for birth control.	Yes	not mentioned
I could not get an appointment at the clinic.	Yes	not mentioned
I wanted to switch to another method.	Yes	not mentioned
I thought I was still protected from a method that I used before.	Yes	not mentioned
I did not think I was fertile	Yes	not mentioned
I did not want my mother and/or father to find out I was having sex.	Yes	not mentioned
OTHER _____		

30a. Are there any other reasons? _____ (write in)

31. – 33. Save spot – for skip purposes, moved questions

[BEGIN LAST PREGNANCY SERIES – don't do if current pregnancy is first pregnancy.]

READ: "We would now like you to think back to the time right before your last (or current) pregnancy and answer the following questions"

34. If you had to rate from 1 (wanted to avoid pregnancy) to 5 (wanted to get pregnant) how much you wanted to get pregnant with your most recent pregnancy, how would you rate yourself?

1	2	3	4	5
(wanted to avoid pregnancy)				(wanted to get pregnant)

35. How happy did you feel when you found out you were pregnant? On a scale from 1 (very unhappy to be pregnant) to 5 (very happy to be pregnant)?

1	2	3	4	5
(very unhappy)				(very happy)

35a. Right before your most recent pregnancy, did you plan to get pregnant ?

No
Yes

Yes
No

Yes
No

1 2 3 4 5
(not at all) (tremendous amount)

1 2 3 4 5
(not at all) (tremendous amount)

[illegible]

1 2 3 4 5
(not at all) (tremendous amount)

1 2 3 4 5
(not trying to get pregnant) (really tried hard to get pregnant)

1 2 3 4 5
(not trying to (trying to avoid)
avoid)

1 2 3 4 5
(not surprised) (very surprised)

42. When you found out about your most recent pregnancy how confused did you feel on a scale from 1 (not confused at all) to 5 (very confused)?

1	2	3	4	5
(not confused)				(very confused)

43. When you found out about your most recent pregnancy how scared did you feel on a scale from 1 (not scared at all) to 5 (very scared)?

1	2	3	4	5
(not scared)				(very scared)

44. During the year before you became pregnant for the last time, did you use any birth control or protection?

No **SKIP TO Q50**
Yes

45. What birth control method(s) or protection were you using? *[Respondent can say multiple methods]*

Pill	Diaphragm
Shot	Foam
Condom	Norplant
IUD	Other _____
Withdrawal (pulling out before ejaculation)	

46. Were you using a birth control method when you became pregnant with your most recent pregnancy?

No **SKIP TO Q50**
Yes

47. What birth control method(s) or protection were you using when you became pregnant?

None	
Diaphragm	SKIP TO Q50
IUD	SKIP TO Q50
Foam	SKIP TO Q50
Norplant	SKIP TO Q50
Pill	SKIP TO Q49
Condom	SKIP TO Q50
Withdrawal (pulling out before ejaculation)	SKIP TO Q50
Shot	CONTINUE

SKIP TO Q50

48. You said you used the shot, did you ever miss an appointment for your shot during the year before you became pregnant with your most recent pregnancy?

Yes
No

SKIP TO Q50

49. You said you were using the pill when you became pregnant, did you ever miss a pill?

Yes
No

50. Around the time of your last pregnancy, about how often did you use the condom?

Every time **SKIP TO Q52**
Sometimes
Never

[The following is asked of women who said that they did not want to get pregnant with the most recent pregnancy (Q6) or that this pregnancy came too soon (Q7) and that they were not using birth control during the year (Q44) or at the time (Q46) they came pregnant. Else skip to Q52.]

51. You said that your last pregnancy came too soon [or was not wanted], why were you not using birth control when you became pregnant? ***[Interviewer, code Yes for all responses stated. Measures ambivalence toward b.c.]***

I wanted to have a baby.	Yes	not mentioned
I was using a method/protection.	Yes	not mentioned
I did not expect to have sex.	Yes	not mentioned
I did not think I could get pregnant.	Yes	not mentioned
I did not really mind if I got pregnant.	Yes	not mentioned
I was worried about the side effects of birth control.	Yes	not mentioned
My male partner did not want me to use a birth control method.	Yes	not mentioned
My male partner did not want to use a birth control method/protection.	Yes	not mentioned
My male partner wanted the baby.	Yes	not mentioned
I could not afford to pay for birth control.	Yes	not mentioned
I did not know where to go for birth control.	Yes	not mentioned
I could not get an appointment at the clinic.	Yes	not mentioned
I wanted to switch to another method.	Yes	not mentioned
I thought I was still protected from a method that I used before.	Yes	not mentioned
I did not think I was fertile	Yes	not mentioned
I did not want my mother and/or father to find out I was having sex.	Yes	not mentioned
OTHER _____		

51a. Are there any other reasons? _____ (write in)

52. Save spot – for skip purposes

53. Save spot – for skip purposes

54. Save spot – for skip purposes

Section C. Health Risks for Teen Mothers and their Children

F1b. If currently pregnant for the first time, skip to section D.

Else, continue with q55.

[This section is about the 1st baby not 1st pregnancy. If 1st pregnancy was a miscarriage, stillbirth, abortion, please refer to the first live birth.]

READ: “The next few questions are about your 1st baby and your experiences during his/her birth.”

55. How many weeks early or late did your baby come?

Pregnancy was on time

_____ number of weeks early
_____ number of weeks late

56. At birth, did you first baby weigh more than 5 ½ pounds, or less?

5 ½ pounds
More
Less
Don't know

57. How many weeks or months had you been pregnant when you first visited a doctor, midwife or clinic for prenatal care?

Less than 1 month

Between 1 to 3 months

3 – 6 months
more than 6 months
never had a visit

SKIP TO 59

58. During your first pregnancy, how many times did you visit a doctor, midwife or clinic for prenatal care?

_____ (Total number)

59. For how many weeks did you breast-feed your first baby?

_____ weeks
I didn't breastfeed my baby
I breast-fed my baby less than 1 week
I'm still breastfeeding my baby

Section D. Future Childbearing Intentions

[The following questions are asked to all women, whether or not ever pregnant, with adaptations for whether currently pregnant or ever been pregnant.]

READ: "The next set of questions are about your desire for children in the future."

60. Looking to the future, do you yourself want to have a[nother] baby? [after this pregnancy is over – *if currently pregnant*]

No **SKIP TO 62**
Yes

61. How many [more] babies do you want to have? [after this baby is born]

Number _____

- 61a. Looking to the future, how soon do you want to have a[nother] baby?

Months _____

62. Looking to the future, does your current husband or partner want to have a[nother] baby? [after this pregnancy is over]

Definitely Yes
Probably Yes
Probably No

SKIP TO 65

SKIP TO 65
SKIP TO 65
SKIP TO 65

64. Looking to the future, how soon does your husband want to have a child?
Months

65. On a scale from 1 (very unhappy) to 5 (very happy), how happy would you be if you became pregnant now?

66. If you had to rate from 1(trying hard not to get pregnant) to 5(trying hard to get pregnant) how much you are trying to get pregnant right now, how would you rate yourself?

67. This question is about the total number of children you consider ideal for yourself. If you had it to do all over again, how many children would you, choose to have?

Number _____

Don't know _____

[All women enter this section, but do not get asked all questions. Begin with Q68 for each method for all women. Then proceed with the skip pattern specified below.]

IF PRENATAL AND NEVER USED CONDOM SKIP TO F1 SKIP PATTERN

Method	68. Have you ever used [Method]	69. In the last month (30 days) have you used [Method]:	70. Are you using condoms because you are mostly concerned about pregnancy, mostly concerned about STDs, concerned about both pregnancy and STDs?
Shot	Yes No	Yes No	<ul style="list-style-type: none"> • Concerned about pregnancy • Concerned about STDs • Concerned about both pregnancy and STDs
Pill	Yes No	Yes No	
IUD	Yes No	Yes No	

Norplant	Yes No	Yes No	
Diaphragm	Yes No	Yes No	
Withdrawal (pulling out before ejaculation)	Yes No	Yes No	
Rhythm	Yes No	Yes No	
Condom	Yes No	Yes proceed with Q70 No skip to q72	
Sterilization	Yes No	Yes No	

71. About how often would you say you used the condom?

every time you had sex
sometimes
never

72. Have you ever had a condom break or pop while you were using it?

Yes
No

F1. SKIP PATTERN – IF EVER USED:

PILL	SKIP TO Q74
SHOT	SKIP TO Q73
DIAPHRAGM	SKIP TO Q75
IUD	SKIP TO Q75
NORPLANT	SKIP TO Q75
CONDOM	SKIP TO Q78
Withdrawal (pulling out before ejaculation)	SKIP TO Q77
NO METHOD	SKIP TO Q77

Method	<i>USED, coded by computer</i>	73. Did you ever miss an appointment for your shot?	74. Did you ever miss a pill?	75. Did you experience any side effects?	76. What side effects did you experience? (see note below)
Shot	Yes or No	Yes or No (skip to Q84)		Yes or No	1 - 8
Pill	Yes or No		Yes or No	Yes or No	1 - 8
IUD	Yes or No			Yes or No	1 - 8
Norplant	Yes or No			Yes or No	1 - 8
Diaphragm	Yes or No			Yes or No	1 - 8

Side effects: 1 = none; 2 = weight gain; 3 = headaches/nausea; 4 = varicose veins; 5 = prolonged menstruation; 6 = irregular menstruation; 7 = lack of menstruation; 8 = other (write in)

[Q77 for current non-users, else skip to Q78]

77. What were the reasons you did not use birth control in the last month? *Mark yes to any stated*

- I did not have sex
- I am pregnant already
- I want to get pregnant.
- I do not think I can get pregnant.
- I don't really mind if I get pregnant.
- I am worried about the side effects of birth control.
- My male partner does not want me to use a birth control method.
- My male partner does not want to use a birth control method.
- I can not afford to pay for birth control.
- I did not know where to go for birth control.
- I did not want my mother and/or father to find out I was having sex.
- I could not get an appointment at a family planning clinic

77a. Are there any other reasons? _____ (write reasons)

READ: "Please think back to the first time you had sexual intercourse and answer the following questions"

78. How old were you the first time you had sexual intercourse (that is, made love, had sex, or gone all the way)?

Age _____

Never had sex

SKIP TO SECTION F

79. How old was your sexual partner the first time you had sexual intercourse?

Age _____

80. The first time you had sexual intercourse, were you or your partner using any type of birth control/protection?

No

SKIP TO Q83

Yes

81. What method of birth control or protection were you or your partner using? **[multiple possible]**

Pill

Diaphragm

Shot

Foam

Condom

Norplant

IUD

Other _____

Withdrawal (pulling out before ejaculation)

82. For how long had you been using this method of birth control before you first had sexual intercourse? *Ask only for pill, injection, norplant*

Months _____ Years _____

SKIP TO Q86

[Following for those not using contraception at first sex]

83. What were the reasons why you didn't use birth control the first time you had sex? *Mark yes to any stated*

I wanted to get pregnant.	Yes	not mentioned
I did not expect to have sex.	Yes	not mentioned
I did not think I could get pregnant.	Yes	not mentioned
I didn't really mind if I got pregnant.	Yes	not mentioned
I was worried about the side effects of birth control.	Yes	not mentioned
My male partner did not want me to use a birth control method.	Yes	not mentioned
My male partner did not want to use a birth control method.	Yes	not mentioned
I did not know you needed to use birth control.	Yes	not mentioned
I did not know anything about birth control.	Yes	not mentioned
I could not afford to pay for birth control.	Yes	not mentioned
I did not know where to go for birth control.	Yes	not mentioned
I did not want my mother and/or father to find out I was having sex.	Yes	not mentioned

83a. Are there any other reasons? _____(write reasons)

Section F. Perceptions of Birth Control Methods and Reproductive Health

READ "The following questions ask about your opinions about birth control and protection. Please try to be as honest as possible when responding to the questions."

84. How likely is it that you could get pregnant by having vaginal sex without using birth control/protection? Would you say:

- Very likely
- Somewhat likely
- Not likely at all

86a. How likely is it that you could get a sexually transmitted disease by having vaginal sex without using a condom? Would you say:

- Very likely
- Somewhat likely
- Not likely at all

85. If used right, how effective do you think birth control pills are for preventing pregnancy? Would you say:

- Very effective
- Somewhat effective
- Not effective at all
- DK

86. If used right, how effective do you think the shot is for preventing pregnancy? Would you say:

- Very effective
- Somewhat effective
- Not effective at all
- DK

87. If they're used right, how effective do you think condoms are for preventing pregnancy? Would you say:

- Very effective
- Somewhat effective
- Not effective at all
- DK

89a. If they're used right, how effective do you think condoms are for preventing a sexually transmitted disease?

Would you say:

- Very effective
- Somewhat effective
- Not effective at all
- DK

88. How likely do you think it is that a condom would break while having sex?

- Very likely
- Somewhat likely
- Not likely at all

Self-Efficacy Scale

READ: "The following questions ask about how you would react in certain personal situations. Please remember that you don't have to respond if you feel uncomfortable with the question. Please answer the following questions with the following response options."

1	2	3	4	5
(not sure at all)	(a little sure)	(moderately sure)	(very sure)	(extremely sure)

SE1. How sure are you that you could refuse sex with someone you met at a party and you were attracted to?

SE2. How sure are you that you could refuse sex with a new boyfriend if he wanted to have sex with you and you did not feel ready?

SE3. How sure are you if you did not want to use drugs or alcohol and a person was trying to get you to use some, you would be able to make the decision that is right for you?

SE4. How sure are you that you would be able to tell someone that you did not want to do drugs or alcohol if this were your decision?

SE5. How sure are you that you would be able to refuse sex with a partner who refuses to use a condom?

SE6. How sure are you that you tell your partner that you wanted to start using condoms even if you had never used condoms with this sexual partner before?

SE7. How sure are you that you could convince a new partner to use a condom?

Birth Control Knowledge

READ: "Please state whether the following statements are true or false. You can also answer don't know."

89. If the pill is taken for a very long time, a woman can become infertile.	True	False	DK
90. Medication, especially antibiotics, can reduce the pill's effectiveness.	True	False	DK
91. If you take the pill for a long time you could get cancer	True	False	DK
92. If the shot is taken for a very long time, a woman can become infertile.	True	False	DK
93. If a young couple has had unprotected sex a few times and a pregnancy did not happen, then they do not have to worry about her getting pregnant.	True	False	DK

Barriers to Contraception Scale

READ: “The following questions ask about your experience with and opinions about certain birth control methods. Use 1 for never, 2 for almost never, 3 for sometimes, 4 for almost always and 5 for always.”

1 – never 2 – almost never 3 – sometimes 4 – almost always 5 – always 6- don't know/NA

READ: “ For each statement, answer the following question: In general, how much of a problem is it to ...?”

94. Get or buy condoms	1	2	3	4	5	6
95. Talk to a new partner about using a condom	1	2	3	4	5	6
96. Convince a partner to use a condom	1	2	3	4	5	6
97. Use condoms every time you have sex	1	2	3	4	5	6
98. Take the pill at the same time every day.	1	2	3	4	5	6
99. Go back to the clinic to renew a pill prescription or get another shot.	1	2	3	4	5	6
100. Ignore or cope with the side-effects of the shot or the pill.	1	2	3	4	5	6
101. Put off having sex if you don't have birth control	1	2	3	4	5	6
102. Ask for advice from family or friends about birth control	1	2	3	4	5	6
103. Get information about a family planning clinic	1	2	3	4	5	6
104. Make an appointment with a family planning clinic	1	2	3	4	5	6
105. Travel to a family planning clinic from your home	1	2	3	4	5	6
106. Pay for services to receive birth control	1	2	3	4	5	6
107. Talk to doctors or nurses about your concerns regarding birth control	1	2	3	4	5	6

Section G. Attitudes Towards Motherhood and Childbearing

[This section asked to all women.]

READ: “The following statements have to do with how you view childbearing and motherhood. The scale ranges from 1 to 5 with 1 indicating that you strongly disagree with a statement to 5 indicating that you strongly agree. The higher the number you choose for each statement, the stronger you agree with the statement.”

1 - strongly disagree 2 – disagree 3 – don't know 4 – agree 5 – strongly agree

108. A child gives me more of a reason to work towards my career goals.	1	2	3	4	5
109. Having a baby makes me feel more acceptable among my friends.	1	2	3	4	5
110. Having a baby makes me feel more like an adult.	1	2	3	4	5
111. A child gives me more of a reason to complete my education.	1	2	3	4	5
112. A child gives me more of a reason to stay away from trouble (excessive parties, drinking, drugs, etc.).	1	2	3	4	5
113. Having a baby gives me more attention from my boyfriend/husband.	1	2	3	4	5
114. Having a child brings my family closer together.	1	2	3	4	5
115. Having a baby makes me feel more responsible.	1	2	3	4	5

READ: “The following questions ask how you generally feel about the importance of certain life events related to childbearing and motherhood. The scale ranges from 1 to 5 with 1 indicating that you think the event is not important at all and 5 indicating that you think the event is very important. The higher the number you assign to each statement, the more important you think the event is.”

1 - not important 2 – somewhat important 3 – quite important

116. How important is it that a woman is financially secure before having a baby?	1	2	3	4	5
117. How important is it to plan when to have a baby?	1	2	3	4	5
118. How important is it to finish high school before having a baby?	1	2	3	4	5

119. How is it that a woman's husband/boyfriend supports her decision to have a baby? 1 2 3 4 5
 120. How important is it that a woman's family supports her decision to have a baby? 1 2 3 4 5
 121. How important is it to have a stable career before having a baby? 1 2 3 4 5
 122. How important is it to finish college before having a baby? 1 2 3 4 5
 123. How important is it that a woman has her own home before having a baby? 1 2 3 4 5

124. What is a good age for a woman to have her first child? Age _____
 125. What is a good age for a woman to stop having children? Age _____

Section H. Perceived peer norms [This section asked to all women.]

READ: "The following questions are about your female friends. Please tell me whether none, a few, half, most, or all of your friends do the following things. In general, how many of your female friends do you think....."

0 – none 1 – a few 2 – half 3 – most 4 – all

126. Use condoms	0	1	2	3	4
127. Believe that condoms are effective in preventing pregnancy.	0	1	2	3	4
128. Believe that the shot is effective in preventing pregnancy.	0	1	2	3	4
129. Believe that the pill is not effective in preventing pregnancy.	0	1	2	3	4
130. Believe it is important to use birth control if they are not ready to have a baby	0	1	2	3	4

Section J. Access to Reproductive Health Services and Information

THE NEXT TWO QUESTIONS ASKED TO PRENATAL WOMEN ONLY. FP WOMEN SKIP TO 134

131. Did you ever visit a clinic for birth control or family planning?
 Yes **SKIP TO 134**
 No

132. What was the main reason you never visited a clinic for birth control?
 I don't have sex often.
 I don't know of any clinics that offer birth control.
 I don't want my parents to find out I am having sex.
 Other _____

ALL PRENATAL SKIP TO Q136

133. What is the reason for your appointment today?
 Return annual with doctor (all methods) SKIP TO 136
 Nurse revisit (shot update, pill refill, repeat PAP, BP, Hemoglobin) SKIP TO 136
 Problem/doctor (STDs)
 Problem/doctor (method side-effects/change method)
 Initial/doctor (all methods)
 Other _____

134. How long did you wait for your appointment today?
 1 week or less
 2 – 3 weeks

1 month
longer than 1 month

135. Who do you usually feel most comfortable talking to about sex and birth control? (*do not read answers, code response*)

Mother
Aunt
Sister
Cousin
Friends
Boyfriend
Doctors and nurses
School counselor or teacher
Other _____

Section L. Background Information

136. How old are you?

Age _____

137. Save for skip

138. What is your marital status?

Single	SKIP TO 153
Separated	SKIP TO 153
Divorced	SKIP TO 153
Engaged	SKIP TO 152
Married	

139. How long have you been married?

_____ months	
_____ years	SKIP TO 156b

140. How long have you been engaged?

_____ months	
_____ years	SKIP TO 156B

141. Are you in a relationship now?

Yes	
No	SKIP TO 157

142. How long have you been in this relationship?

_____ months	
_____ years	

156b. How old is your partner?

143. What is your zip code?

144. Would you say you are:

Extremely religious

Very religious
 Somewhat religious
 Not religious at all **SKIP TO Q159**

145. What is your religion?

Baptist
 Other Protestant
 Catholic
 Other

146. How often do you attend church?

Once a week
 Twice a week
 More than two times a week

147. What is the highest grade in school you have completed?

6	12 completed high school	
7	14 This is my first year of college	SKIP TO Q162
8	15 2 years of college	SKIP TO Q162
9	16 3 years of college	SKIP TO Q162
10	17 graduated college	SKIP TO Q162
11	18 higher than college	SKIP TO Q162

148. Are you currently enrolled in high school?

Yes **skip to q163**
 No

149. Did you receive a GED?

Yes
 No

150. Did you go to or are you currently enrolled in vocational or trade school?

Yes
 Currently enrolled
 No

151. How do you usually pay for your healthcare or visits to the doctor?

Self
 Medicaid
 Private/Individual insurance that you pay for yourself
 Employment provides insurance
 Other

152. What high school did you attend? _____ *[If not in New Orleans, write city and state.]*

153. Tell me all the people who live in your household. *[Determine and note relationship to interviewee.]*

154. How old was your mother when she had her first child?

Age _____

Did not know mother **SKIP TO Q169**
Don't know age

155. What is the highest level of education your mother completed?

Did not complete high school
Completed high school
Some college
Completed college
Don't know

156. What is the highest level of education your father completed?

Did not complete high school
Completed high school
Some college
Completed college
Did not know father
Don't know

157. How many times did you have sexual intercourse in the **past month** (last 30 days)?

Number _____
None
Never had sex

78a. The last time you had sex, did you use a condom?

No
Yes

78b. The last time you had sex, how would you rate your risk of a getting a sexually transmitted disease?

Non-existent
Slight
Moderate
High
Don't know

158. Counting all your male sexual partners, even those you had intercourse with only once, how many men have you had sexual intercourse with in your life?

Number _____

159. During the past six months, that is since [*date six months ago*] what were main sources of income? Did you get money from a: **[multiple responses possible]**

Welfare payments including AFDC, GA, SSI	yes	no
Unemployment compensation	yes	no
Husband or boyfriend	yes	no
Family or friends	yes	no
Job or business	yes	no
Any other sources _____		

160. Are you currently employed?

Yes

No

175. What do you do? _____

161. What is your monthly income on average?

\$0 – 200

\$201 – 400

\$401 – 600

\$601 – 800

\$801 – 1000

\$1001 or higher

176. Which groups, that is Black, White, Hispanic, Asian/Pacific Islander, Alaskan Native/American Indian would you say best describes your racial background?

Black

Hispanic

Alaskan Native/American Indian

White

Asian/Pacific Islander

INTERVIEWER COMMENTS: