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Attitudes of Mothers and Daughters Towards Menstrual Suppression

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ATTITUDES OF MOTHERS AND DAUGHTERS TOWARDS MENSTRUAL SUPPRESSION

by

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Abstract

Recent biomedical advancements, cultural practices, and individual preferences have altered the ways in which biological process such as menstruation are perceived and managed. Increasingly, women are interested in suppressing menstruation to alleviate its negative symptoms, including bloating, menstrual cramps, fatigue, and irritability. This topic is especially relevant for adolescent girls, as mothers and daughters might have to negotiate attitudes towards daughters' menstrual suppression. Therefore this study aims to examine how this topic is discussed and understood within the mother-daughter dyad. It is also important to consider how these attitudes are shaped by cultural background, ethnicity, socioeconomic class, and religion. Through this knowledge health care providers can have a more holistic understanding of how their patients' view menstruation. If health care providers know these basic demographics and the perspectives on this issue, they can be better prepared in administering information and educating their patients. My data collection included literature review, a five category survey, and participant observation in a clinical setting. There were 72 mother-daughter pairs with a total of 144 participants that completed designated surveys for mothers and daughters that had a total of five categories emphasizing participant details, menstrual cycle, reproductive health history, attitudes towards their period and menstrual suppression. Through the experiences of my participants I have found that there is a great desire to learn more of menstrual suppression among both mothers and daughters and that there is some degree of influence of religion and ethnicity on perceptions of menstrual suppression in this population. Age on the other hand, turned out to not be an important factor shaping the positive or negative attitudes toward suppression.

Dedication

For women everywhere, may you never be judged for your reproductive health or reproductive health choices.

For my mother, Kathleen, for being my source of encouragement, discipline, and love, and for Dr. Joanna Mishtal, for her large heart and unwavering support within my life, I would not be where I am today without your guidance.

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Introduction

Since the introduction of the birth control pill in the 1960s women around the world have been given the chance to better control their reproduction as well as regulate their menstrual period. In the recent two decades, hormonal contraceptives have also been used for menstrual suppression. This medicalization of a woman's reproductive cycle—the management of a naturally occurring biological process through new biomedical technologies (Conrad 1992; Lock and Kaufert 2001)—has opened up many debates about whether or not this suppression of menstruation is a natural reproductive process. Some individuals would argue it is a natural process from the perspective of human evolution; women in hunter-gathering societies had an average of only 160 menstrual cycles within their lifetime, compared to the 450 menstrual cycles within their lifetime that women began to experience in the industrial era (Andrist et.al. 2004). However there are many differing views on what exactly is safe, natural, and desirable for women's reproductive health. Moreover, biomedical advancements, cultural practices, and individual preferences have altered the ways in which such biological process are perceived and managed. For the most part, women in the United States and elsewhere around the world choose to control their reproductive lives through family planning practices that include pregnancy prevention and abortion. A report from the 2006–2008 National Survey of Family Growth (NSFG) gathered information on contraceptive use from a nationally representative sample of women and focused on contraceptive use and religious affiliation. This analysis shows that among the women who have been sexually active, 98% of sexually experienced Catholic women have used some form of contraceptive method, other than natural family planning which is condoned by the Catholic Church (Jones and Dreweke, 2011). Even with strong prohibition

against fertility control, such as is present in the Catholic religion, these women still practice contraceptive methods. Therefore, menstruation too is subject to such management. These divergent discourses on women's health are related to both medical and social aspects of women's lives, including ethnicity, culture, socioeconomic status, religion, education, access to health care, and age of the individuals with specific menstrual perceptions.

While there has been a substantial amount of public health and clinical research conducted within the topic of menstrual suppression, there has not been much research focusing on mothers and daughters and their perceptions and attitudes on menstrual suppression. Since mothers and daughters have a generational gap in terms of their socialization and cultural experiences, there may be differences on attitudes towards how they view their body's processes and the use of menstrual suppression. Existing studies (detailed below) do not focus on the relationships between mother and daughter but instead on women's attitudes toward menstrual suppression in general. The mother-daughter relationship commonly includes decisions regarding health and reproduction as it relates to the daughter, which might also include divergent views and negotiation of decisions.

The importance of examining mother and daughter attitudes towards menstrual suppression is to improve the understanding of how this topic is discussed and understood within the mother-daughter dyad. It is also important to note how these attitudes are shaped by culture, class, and religion. Through a deeper understanding of these dynamics health care providers who address the needs of adolescents can have a more holistic view of how their patients view menstruation, and can be better prepared in administering information and educating their patients. Physician Judith Simms-Cendan and medical student Diane Brackett, emphasized

improving patient-centered care by providing clinically useful insights for gynecologists and pediatricians in treating and educating young women and their caregivers (2015). These improvements in turn can further strengthen the quality of care provided in the pediatric and adolescent medicine setting.

Moreover, understanding these perspectives also contributes to the anthropological knowledge in the areas of feminist and gender anthropology, which seeks to better understand how women and girls view and make decisions about their reproductive bodies. This research also contributes to the anthropology of science and technology, which seeks to understand how scientific medical advancements, such as menstrual suppression through the use of pharmaceuticals, are absorbed or rebuffed by the population for which they are developed.

Therefore, in this research, I am interested in the relationship of mother-daughter dynamics in the understanding of menstrual suppression, perspectives on menstruation, and how specific demographic factors contribute or do not contribute to menstrual discourses. Given that this is an understudied area and therefore poorly understood, this research project aims to address this gap in scholarship and knowledge.

My Two Research Questions are:

1.) What types of demographic factors influence perceptions of menstrual suppression among mothers and daughters? and

2.) How do these demographics and other generational differences compare between mothers and daughters?

The goal of my research project is to examine how diverse the attitudes of menstrual suppression are among mother and daughters, while also examining how ethnicity, socioeconomic status, education, and religion are a part of creating the discourse of menstrual suppression.

Literature Review

Through the creation and distribution of the birth control pill in the 1960s there have been many changes in the way that women's reproductive health is regarded by health care professionals. In 1998, Duramed Pharmaceuticals distributed a 28-day oral contraceptive that followed 21 days of desogestrel and estradiol, 5 days of estradiol, and 2 days of placebo pills that would prevent pregnancy, but still allowed monthly menstruation (Poindexter et.al., 2008). Then in 2003 the United States Food and Drug Administration approved one of the first extended cycle oral contraceptives *Seasonale®*, which also prevented pregnancy but now allowed women to reduce menses to about four cycles per year (Marvan and Lama, 2009). Since this introduction, menstrual suppression as a way to reduce the frequency of menses through the use of contraceptives has become a controversial topic among the medical community as to whether or not menstruation is needed (Howes 2010). Physicians that are in support of menstrual suppression argue that menstruation is a byproduct of the failure to conceive a pregnancy, thus is not a needed function and can therefore be altered. Clinical physicians Anita Nelson (2007), Kat Lin and Kurt Barnhart (2007), who are major proponents in support of this theory of non-function of menstruation, further argue that since there is no function to menstruation there can be essential health benefits for women to suppress menstruation through oral contraceptives. These benefits include alleviating symptoms from menstrual disorders such as dysmenorrhea (cramping and pelvic pain), menorrhagia (excessive bleeding), and premenstrual syndrome (PMS) as well as reducing menses due to infertility in women who would have no need for menstruation (Lin and Barnhart, 2007). Physicians in favor of monthly menstruation theorize that evolutionary, biological processes that are "costly" would not persist in nature if they were not

useful. These costs include blood, tissue, and iron loss, tissue regeneration and degeneration involving the endometrium, and the reduction of overall fertile days through endometrial cyclicity (Howes, 2010). Evolutionary biologist Margie Profet (1993) presents a leading hypothesis arguing that menstruation is a functional process that combats sperm-born pathogens through an immunological defense. This defense would require the sloughing of the uterine lining to dispel any pathogens that might have infected the uterus (Profet, 1993). These competing views of menstrual use or disuse propelled researchers to study the health effects of extended oral contraceptives.

The extended oral contraceptives allow women the ability to choose whether or not they need or want to have a monthly menses. Since these advancements of birth control, there have been several discourses that emerged in the perspectives of the patients and the general public around this contentious topic. Discourses are defined in social science scholarship as regimes of truths-a way of defining and producing the objects of knowledge that are discussed and accepted within society (Hall, 1997). In relation to the present study, such discourse include how women view menstruation, if and how it is controlled, and what their feelings reveal about the process. Such discourses may be shaped to various degrees by demographic factors, health care providers, and peers. Significantly, they are also shaped by the media. When a television advertisement for *Seasonale*®—an extended oral contraceptive that allowed a reduction of periods to only four per year—appeared in 2004, the message was that considering suppressing one's period was not only an allowed way of thinking about one's body processes, but also approved by the scientific community. In 2009, the NBC's popular comedy program Saturday Night Live broadcasted a comedic advertisement for "Annuale" in which women discover they can suppress their period to

only one per year (though with some consequences), further showed the normalization of this topic, reflecting an opening of a new language or discourse around how to view and manage menstruation through scientific advancements.

Many of these contraceptive advancements have brought about a new view on menstrual health that also included a concern for both medical professionals and the public. The main concern focused on the potential effects of extending a woman's menstrual cycle on the body. Several studies have been published since the initial launch of *Seasonale*® as an extended oral contraceptive addressing any adverse side effects. Clinical physicians F.D Anderson, William Gibbons, and David Portman (2006) results from a two yearlong study using *Seasonale*® concluded that the most common adverse side effects included heavy or irregular uterine bleeding, weight gain, or acne, but women, overall tolerated it well. Another study investigated the long term effects and safety of *Seasonale*® over a four year period with 320 women participating in the first year and only 85 women staying for the complete three years (only 9.7% reported leaving due to adverse effects) that continued with the study for another three years. The final results of this study concluded that patients are unlikely to experience side effects that differ significantly from traditional 28-day oral contraceptive regimens (Davis et.al., 2010). Oral contraceptives have so dominated the U.S. market since their emergence in the 1960s that many women equate the use of birth control with the use of the pill (Schwartz and Gabelnick, 2002) Since the approval of an extended cycle oral contraceptive there have been several other advancements in the medical field on birth control technology to develop effective hormonal alternatives. These include contraceptive vaginal rings, intrauterine device (IUD), implants, and

patches. Oral contraceptives are not the only form of menstrual suppression to choose from in the growing market of menstrual control.

Bioethicist Hellen Loshny, focusing on bioethics and reproductive technologies argues that modern society is moving from a birth control discourse to a menstrual control discourse in the sense that reproductive health discourses are being shaped by pharmaceutical companies' marketing the idea that fewer periods equate to more possibilities (Loshny, 2004). The meanings of such "possibilities" are left to the consumer to interpret, and each individual may imagine how birth control pills can function beyond controlling pregnancy but can now include controlling menstruation and its seemingly degrading side effects such as PMS, cramping, and excessive bleeding to allow a better quality of life. However this move to a discourse of menstrual control has medicalized a woman's menstruation. The process of medicalization here is the transition to accepting that a natural biological process that has not been subject to any management beyond how the woman herself deals with it, is now seen as a form of disease (or "dis-ease") and in need of some type of medical intervention.

There is a significant amount of variability between cultures in how menarche and menstruation are viewed. Anthropologist, Cathryn Britton (1996) shows how menstruation is an event that is affected by ritual practices and cultural attitudes that tend to separate and define the experience of women in contrast to men. While there is a wide and varied range of codes for menstrual conduct involving diverse purposes and meanings, cultural rules associated with how one should act during menstruation exist everywhere, and women are held responsible for adhering to these rules that often severely restrict their behavior, including the expectation in some cultures that women who menstruate should be secluded (Jackson and Falmagne, 2013).

However, some women have taken this “seclusion” they experience during menses and used it as a way to find comradery with other women and as opportunity to be free of societal duties during this period.

Since these advancements in birth control, there have been several discourses among women that emerged around this contentious topic including how they view menstruation, if and how it is controlled, and what their feelings reveal about the process. Women’s view of menses and attitudes towards menstrual suppression is shaped through health care sources, friends, media, and family. A study on generational differences among Mexican teenagers, college students, and middle-aged women stated how there was no significant difference on the sources of information they had received on first learning about menstruation. Each generation had similar experiences receiving their primary information about menses from their mothers (64%) and secondary sources from sisters (10%), friends and teachers (9%) (Marvan and Morales 2006:325).

Another major demographic factor that might influences acceptance of menstrual suppression is age, and in particular whether one was born before or after the 1960s. Research has shown a positive correlation between women older than 55 favoring monthly cycles, while woman younger than that age demographic are more supportive of fewer cycles per year which may be linked to the introduction of modern birth control methods. A study conducted in Mexico focused on how generational differences could influence perceptions on menstrual suppression with middle-aged woman between the ages of 40-50 and younger woman being between 20-25 years who attended a university. Participants from both age groups knew little about menstrual suppression, however after being educated on this topic, the younger women were more open to

the idea of having longer and fewer menstrual cycles as compared to the middle aged women who would rather maintain monthly cycles (Marvan and Lama, 2009).

Some studies have focused on the attitudes of young women compared to middle-aged women of several ethnic origins, which reveals a trend towards younger women favoring fewer menstrual cycles, whereas the middle-aged women favor having monthly cycles (Marvan and Molina-Abolnik 2012). This is largely explained in the study by the exposure of certain groups of women to particular concepts of how menses reinforces or signals femininity in certain cultural contexts, which many older women have grown accustomed to throughout their life. The perception within this age demographic, according to this study, is that if menses is reduced, than women may lose or reduce their femininity as understood in the context of one's perception of womanhood as predicated on evidence of "normal" reproductive processes.

In contrast, the younger women studied by psychologists M.L Marvin and M Molina-Abolnik (2012) showed a greater positive attitude toward and acceptance of menstrual suppression and contraceptives. This result within the younger demographic may be the outcome of an increasing negative view of menstruation within several societies (Rose et. al. 2008). For example, younger women have a more negative view and tend to view menstruation as debilitating, embarrassing, and a nuisance. A study with U.S. women, many of whom were in favor of menstrual suppression, viewed their period to be shameful and bothersome, and similar findings were reported from a study with women in India (Rose et.al., 2008). In an earlier study conducted by Nurse Practitioner Linda Andrist and colleagues (2004) the negative feelings of menstruation and wide acceptance of oral contraceptives for menstrual suppression was positively correlated with the desire among young women to reduce menstrual pain and

discharge. Thus, it is becoming a common occurrence in many cultures to view menstruation as bothersome among this younger group, and therefore it could be expected that this population would be in favor of menstrual suppression.

However, scholars have asked, what are the reason for this correlation? It may be due to the globalization of Western feminist concepts such as women being independent and focusing more on education and careers in the work force. Research shows that many women in the work force would prefer to have fewer menstrual cycles as they find it inconvenient and interfering with their job performance (Makuch et.al., 2012). Other studies on this topic have also found some support for this view. For example an Italian study that surveyed 242 women with a mean age of 37 reported 28.4% of these women did not want their period at work (Ferrero et.al., 2006).

Many young girls in several societies view their cycle as disruptive, painful, unclean and embarrassing and would prefer to use oral contraceptives to reduce menstrual symptoms such as cramps, headaches, and bleeding. Young girls and women are also faced with a cultural double-bind regarding menstruation, wherein it is seen as a natural and normal process on the one hand, but often viewed in a negative way on the other hand (Rembeck et. al. 2006). A study in Brazil showed that 21.4% of Brazilian woman surveyed reported that reasons to like menstruation was that it made them feel feminine or womanly, but overall there was a dislike towards menstruation (Makuch et.al, 2012). Based on the existing scholarship which highlights age-related differences between middle-age women and younger women in their attitudes toward menstruation, it is clear that further research regarding menstrual suppression would be useful to better understand the recommendation of menstrual suppression in the health care setting.

Methodology

In this research study I collected data with mother-daughter pairs in a clinical setting, using a 50-item survey with daughters, and a 58 item survey with mothers. I also conducted participant observation at the clinic for an average of two hours per week between September 2014 and August 2015, for a total of approximately 90 hours. Before beginning research, I completed the CITI Certification training via the UCF IRB website to become certified in ethics procedures in research with human subjects. The time period for data collection for this research was from September 2014 to November 2015. Data analysis and writing took place from November 2015 to April 2016.

Participants

All participants were recruited at the Pediatric and Adolescent Gynecology outpatient clinic at Winnie Palmer Hospital in Orlando, Florida. To be considered a participant for this study the mother-daughter pairs could only be first-time patients at the clinic. Participants were chosen as first-time clinic patients to more accurately evaluate the general population knowledge. Education about hormones and menstrual suppression is a routine practice at the pediatric adolescent gynecology clinic, and would potentially alter survey responses. Patients coming to the clinic constitute a specific population that is seeking medical advice due to menstrual issues[1] they are experiencing. Inclusion criteria for the daughter required that she is a first time patient of the clinic who is between the ages of 12-18 and began to menstruate. A mother for the purposes for this study is considered as one of the following: a biological mother,

[1] Normal menstruation is often irregular though adolescents in the first few cycles between 34-40 days and once females are fully ovulatory normal cycles range from 21-45 days. Abnormal menstruation is irregular or missed menses occurring over 90 days that may be associated with pregnancy, endocrine disorders , tumors, and acquired conditions (ACOG Committee Opinion No. 65, 2015).

a relative, a guardian, or a caregiver of the patient being seen, and is of any age. In the final sample, the mothers that participated in this study were in the age range of 30-67. To ensure there was adequate racial and ethnic diversity in this study, any participant who met the basic requirements for participation was given the option of participating when she checked-in for their appointment.

Participants excluded from this study were returning patients (given the strong educational component provided in the clinic), father-daughter pairs, daughters who have not had their period, and daughters outside the age range. Recruitment and consent forms were in English and Spanish. Any participant who could not read either the English or Spanish information form or those with learning disabilities were also excluded. The final sample size for this study included 72 mother-daughter pairs, a total of 144 research participants.

Materials and Procedures

The process of recruitment involved several steps. Potential participants were given a Study Information sheet that summarized the study and two-surveys in English or Spanish, one designated for the daughter and one designated for the mother. This research study is a continuation of a study conducted from November 2013 to April 2014 by a UCF medical school student, Diane Brackett along with Dr. Judith Simms-Cendan the lead physician of the clinic, who had designed the surveys I used, as well as the Study Information Sheet. The IRB of Arnold Palmer Medical Center, which is associated with the clinic, approved that this study was a Minimal Risk project allowing waivers of adult consent, minor assent, and parental consent. IRB Approval form is located in Appendix A. Thus, the Study Information Sheet was used as a proxy of consent and was kept by the participants for their review. The Study Information Sheet stated

that mothers were allowed to examine a blank daughter survey before agreeing to participate. The Study Information Sheet is provided in Appendix B.

Both surveys had five sections: (1) participant details, (2) menstrual cycle, (3) reproductive health history, (4) attitudes towards one's period and menstrual suppression, and (5) conclusion that had an additional qualitative, narrative "conclusion" section for participants to fill out, if they wished. This additional space allowed patients to ask questions or make additional comments regarding menstrual suppression that may not have been addressed in the survey itself. Mother surveys had an additional section that included attitudes they had towards their daughter's period and menstrual suppression as well as additional demographic questions and questions regarding menopause within the survey in order to assess their views on the meanings of menstruation. The surveys were derived or adapted from previous surveys and questionnaires within this topic. These sources of survey instruments we adapted include:

1.) Willingness to Suppress Menstruation Questionnaire (WSM) (Rose et.al., 2008),

2.) Menstrual Suppression Scale (Johnston-Robledo I et.al., 2003),

3.) Questionnaire of attitudes toward menstrual suppression (Marvan and Lama, 2009),

4.) Menstrual Attitudes Questionnaire (MAQ) (Brooks-Gunn and Ruble, 1980).

Section V of the mother survey pertaining to their daughter's menstruation was written by the initial author and researcher of this study, Diane Brackett. Table 1 and Table 2 (shown below) detail the differences and give descriptions of the contents within the mother and daughter surveys. The Spanish survey was reviewed and translated by a Certified Healthcare interpreter who has certification through Certification Commission for Healthcare Interpreters. The surveys were distributed to participants as a paper-and-pencil instrument that was than scanned by an

Optical Mark Reader (OMR) scanner. (Please see Appendix C and Appendix D for the complete survey instruments).

Table 1: Daughter survey with listed sections

Section	Title	# of Questions	Description
I	Participant Details	5	Demographic questions: age, ethnicity, religious affiliation, education, and methods of obtaining health information.
II	Your Menstrual Cycle	14	Routine questions about monthly period.
III	Reproductive Health History	2	Questions about use of birth control.
IV	Attitudes Toward Your Period and Menstrual Suppression	25	The majority of the questions are scored on a Likert-type rating scale of 1 (strong disagree) to 7 (strongly agree).
V	Conclusion	4	3 questions about menstrual suppression and one optional comment section.

Table 2: Mother survey with listed sections

Section	Title	# of Questions	Description
I	Participant Details	8	Demographic questions: age, relationship to the patient, ethnicity, religious affiliation, marital status, occupation, highest level of education completed, and methods of obtaining health information.
II	Your Menstrual Cycle	14	Routine questions about monthly period.

III	Reproductive Health History	4	Questions about use of birth control, with additional questions related to menopause.
IV	Attitudes Toward Your Period and Menstrual Suppression	25	The majority of the questions are scored on a Likert-type rating scale of 1 (strong disagree) to 7 (strongly agree).
V	Attitudes Toward Your Daughter's Period and Menstrual Suppression	3	Questions assess mothers' perception of their daughter's period (if bothersome, etc.), and whether she would support her daughter using menstrual suppression.
VI	Conclusion	4	3 questions about menstrual suppression and one optional comment section.

Data Collection

New patients checking in the front desk for their appointments and were reviewed by the office coordinator or myself regarding eligibility for the research study. Patients that satisfied the criteria for participation for this study were then informed about the study and the volunteer nature of their participation, and handed a Study Information Sheet to review before deciding whether to become participants or not. Once the mother-daughter pair agreed to participate, they were each handed their designated pencil-and-paper survey to fill out in the clinic waiting room before their appointment time. The surveys took approximately 15 minutes to complete and once completed, each participant was given $5 remuneration for her time. I than collected the completed surveys, scanned them by a Fujitsu OMR, and converted them by the Remark Office software. The files were then exported in a passcode-protected excel file, and later converted into SPSS files for statistical analysis.

I also conducted participant-observation for almost a year at the clinic coming in every week for approximately two hours from September 2014-August 2015. During this time I also collected survey data. I handed out surveys, clarified any terminology, and sat in on clinical examinations. I wrote down field notes regarding the interactions I observed among the patients and their mothers with the clinic staff while they were in the clinic waiting for their appointment as well as my experience in shadowing the lead physician.

Reflexive Statement

My interest in this project on menstrual suppression and mother-daughter perceptions on this topic stems from several interests and experiences. The most influential factor is my desire to become a physician and medical anthropologist. I was fascinated by the anthropology discipline but did not know which area of anthropology I would enjoy. I took a few anthropology classes my freshman year along with a general biology class. One of the anthropology classes involved an examination of how culture can influence perceptions of health and disease and how these processes shape health discourses and practices. This was a very engaging topic that led to many discussions on how different societies understand and medically treat illnesses and diseases within their local cultural perspectives. This course, coupled with what I learned in a previous biology class on human sexuality, is why I strive to become a medical anthropologist and physician.

I had gained a particular interest in women's health with a focus on reproductive health and reproductive technologies. Reproductive health education is a very important topic that I have recently become passionate about since starting college. Before attending my first biology of human sexuality class in college I, embarrassingly admit, knew little about my own body and reproductive processes. I was familiar with menstruation and that my body was sexually mature,

but I knew nothing of why I bled every month or how it happened physiologically. Like many young women in previous studies have stated, most of my menstrual health information came from my mother or my sister, which was limited. A few reasons for my mother and sister being my main source of information is due to the fact that I was homeschooled and did not have a formal sex education class. I also did not have consistent access to a physician since my family did not have health insurance due to the fact my father had terminal brain cancer and lost his job around the time I entered puberty. The discourse I was exposed to and adopted was that a period was just something women had and I had to live with it for the next forty years, mood swings, cramps, and migraine discomfort included.

Not only as a woman do I feel that it is important to discuss the biological reason one's body undergoes menstruation, but it is also important to discuss both the biological reasons that women have menstrual side effects such as bloating, menstrual cramps, fatigue, and irritability, as well as the sociocultural effects and understandings of these experiences. I learned about some of these processes in my human sexuality class, however, this was a specific course that had included many different aspects of human sexuality such as reproduction, sexual orientation, sexual identity, gender identity, fertility and sexually transmitted infections. It is when we learned about different contraceptives and how they affect the body that I first learned about menstrual suppression. I was 20 years old, learning about the vast knowledge about the human body in regards to sexuality and sexual health for the first time.

What is so special about my experience in shadowing the lead physician, Dr. Simms-Cendan, and observing the ways in which she educates her patients in how and why they have menstruation. My experiences in the clinic have been very valuable for me as a researcher and as

an individual in appreciating the role of patient education and the contributions that physicians make to helping both mothers and daughters through the challenging period of adolescence. They made me also reflect on my own challenges during adolescence and have given me further affirmation of my interest in women's health and health care in general.

Survey Results

In this research study, 72 mother-daughter pairs, with a total of 144 participants were surveyed. Not every participant completed each question in various sections and data reported for these individuals is reflected within tables below. Table 3 represents demographic characteristics in both mothers and daughters. Mothers had a mean average age of 44.1 years old, while the daughters had a mean average age of 15 years. Not surprisingly, 94.4% of caregivers reported as the biological mother of the patient, followed by 2.8% as stepmother, 1.4% as guardian, and 1.4% as other. Almost half of the participants identified as Caucasian at 55.6%, followed by 23.6% identifying as Hispanic or Latino. Only 2.8% of daughters were not currently in school with the remaining 97.2% enrolled in 4^{th}-12^{th} grades. The majority of mothers had reported some type of postsecondary education at 85.3%, while 14.7% had a high school degree or less. Majority of participants, 40.3% of mothers and 48.6%of daughters, reported religious affiliation to be "other." The next highest religious affiliation was Catholic at 33.3% in mothers and 29.2% in daughters.

Table 3: Demographic Characteristics[1].

Variable	**Mothers** (n = 72)	**Daughters** (n = 72)
Age (years)[2]	44.1 ± 7.3[4] (30.0 – 67.0)	15.0 ± 1.4[4] (12.0 – 17.0)
Ethnicity[3]		
- African American	10 (13.9%)	9 (12.5%)
- Asian	3 (4.2%)	2 (2.8%)
- Caucasian	41 (56.9%)	39 (54.2%)
- Hispanic or Latino	17 (23.6%)	17 (23.6%)
- Other	3 (4.2%)	7 (9.7%)
- I prefer not to answer	0 (0.0%)	2 (2.8%)
Religious Affiliation[3]		
- Catholic	24 (33.3%)	21 (29.2%)

Variable	**Mothers** (n = 72)	**Daughters** (n = 72)
- Jewish	0 (0.0%)	1 (1.4%)
- Mormon	0 (0.0%)	0 (0.0%)
- Protestant	9 (12.5%)	3 (4.2%)
- Not affiliated	7 (9.7%)	9 (12.5%)
- Other	29 (40.3%)	35 (48.6%)
- I prefer not to answer	2 (2.8%)	5 (6.9%)
Marital Status[4]		
- Married	41 (57.7%)	--
- Single	10 (14.1%)	
- Divorced	14 (19.7%)	
- Separated	4 (5.6%)	
- Widowed	0 (0.0%)	
- Other	2 (2.8%)	
Current School Level (Grade)		
- 4th	--	1 (1.4%)
- 7th		4 (5.6%)
- 8th		11 (15.3%)
- 9th		16 (22.2%)
- 10th		19 (26.4%)
- 11th		14 (19.4%)
- 12th		7 (9.7%)
Education[5]		
- Some high school or less	2 (2.9%)	--
- High school	8 (11.8%)	
- Some college	29 (42.6%)	
- College degree	15 (22.1%)	
- Graduate degree	14 (20.6%)	

[1]Categorical variables are presented as n (%); continuous variables are expressed as mean ± standard deviation (95% confidence interval) when normally distributed, and as median (minimum – maximum) when not normally distributed.

[2]Data missing for 2 mothers.

[3]Allowed more than one response.

[4]Data missing for 1 mother.

[5]Data missing for 4 mothers.

[4]Mean and standard deviation.

An important line of inquiry in this study was to learn about the sources of information regarding sexual and reproductive health in general, as well as menstrual suppression in particular. Table 4 and Table 5 below reveal these data. They show that 86.1% of mothers listed their healthcare provider as their main source of information regarding health followed by 55.6% from the internet or computer. Two main sources of health information among daughters was family (72.1%), and their health care provider (63.2%). When research participants were asked how often they would like to have their period, the responses among both groups had no strong indications of preferences on the frequency of menses. Majority of mothers and daughters have never used menstrual suppression. Mothers that have that have used some form of hormonal birth control (pills, rings, implant, etc) was low with 15.7% and among daughters only 4.2% reported ever manipulating their period.

Regarding menstrual suppression, the majority of daughters, 74.6%, reported that they never heard of this concept. The 23.9% of daughters that have heard of menstrual suppression reported that friends, health professionals, and media were their main sources of information on this subject. Among mothers, 40.3% have heard of menstrual suppression, and credit majority of this knowledge to health professionals.

Table 4: Sources of Health Information[1].

Variable	**Mothers** (n = 72)	**Daughters** (n = 68)
Sources of health information[2]		
- Family	16 (22.2%)	49 (72.1%)
- Healthcare provider	62 (86.1%)	43 (63.2%)
- Internet / computer	40 (55.6%)	25 (36.8%)
- Magazines, books, newspapers	18 (25.0%)	6 (8.8%)
- Peers	11 (15.3%)	12 (17.6%)

Variable	Mothers (n = 72)	Daughters (n = 68)
- School	--	14 (20.6%)
- Television	6 (8.3%)	3 (4.4%)
- Other	4 (5.6%)	3 (4.4%)

[1]Data presented as n (%).
[2]Allowed more than one response.

Table 5: Desired Menstrual Frequency and Menstrual Suppression Knowledge[1].

Variable	Mothers (n = 72)	Daughters (n = 72)
How often would want a period[2]		
- Monthly	24 (33.3%)	28 (39.4%)
- Less than monthly	19 (26.4%)	16 (22.5%)
- Never	27 (37.5%)	22 (31.1%)
Have manipulated periods before[3]		
- No, Never	59 (84.3%)	46 (95.8%)
- Yes, but rarely	9 (12.9%)	1(2.1%)
- Yes, often	2 (2.8%)	1(2.1%)
Have heard about menstrual suppression before		
- Yes	29 (40.3%)	17 (23.9%)
- No	43 (59.7%)	53 (74.6%)
If yes, where learned about menstrual suppression[4]:		
- Friends	10 (22.7%)	6 (8.5%)
- Health professionals	17 (38.6%)	5 (7.0%)
- Media (Internet, etc.)	12 (27.3%)	5 (7.0%)
- School	0 (0.0%)	3 (4.2%)
- Work	1 (2.3%)	1 (1.4%)
- Other	3 (6.8%)	4 (5.6%)

[1]Data presented as n (%).
[2]Data missing for 2 mothers and 5 daughters.
[3]Data missing for 2 mothers and 24 daughters.
[4]Only includes responses of participants that answered yes to hearing of menstrual suppression.

Table 6 below addresses a mother's perceptions toward their daughter's menstruation and their degree of support of possible menstrual suppression. Majority of mother's observed that their daughter had some degree of pain during menstruation with 43.5% reporting the pain to be severe. Some mothers felt that in some way their daughter's period interfered with their daily lives, with the highest percentage being moderate interference (36.6%). When mothers were asked if they would support their daughter suppressing her period, 41.1% reported "maybe, it depends," with the next frequency reported as not supportive of their daughters at 27.1%. However, 24.3% would support their daughter in suppression her menstruation.

Table 6: Mother's Attitudes Toward Daughter's Menstruation[1].

Question	**Response** (n = 71)
Does your daughter have painful periods?	
- Little to none	3 (4.3%)
- Mild	11 (15.9%)
- Moderate	24 (34.8%)
- Severe	30 (43.5%)
Would you support your daughter using menstrual suppression?	
- Yes	17 (24.3%)
- No	19 (27.1%)
- Maybe, it depends	29 (41.4%)
- Not sure	4 (5.7%)
Does your daughter's periods affect her everyday life?	
- Little to no effect	10 (14.1%)
- Mild	12 (16.9%)
- Moderate	26 (36.6%)
- Severe	22 (31.0%)

[1]Data presented as n(%).
[2]Data missing 3 mothers.
[3]Data missing 1 mother.

One of the important questions in this research was to examine the potential relationships between various demographic characteristics, such as age, ethnicity, education, and religion and their possible influence on perceptions of menstrual suppression among mothers and daughters. In order to accomplish this, I used a Kendall's Tau correlation coefficient to determine any correlations among individuals within these demographic categories. Values used in this study included statistically significant differences or any approaches to significant differences that may have been determined between two variables.[2] Statistically significant results are represented by Table 7 and data approaching statistical significance is represented in Table 8.

This study revealed a statistically significant negative correlations between age and religion, and a positive correlation between age and education. There was a moderate negative correlation between education and ethnicity; specifically, mothers who were either Asian or Caucasian had a higher education compared to other mothers. Education and religion also followed a similar trend of a negative correlation with moderate significance in that those who affiliated with Catholicism had a higher education. As age of participant increased so did more acceptance of menstrual suppression. However this correlation is considered weak.

[2] Ranges of P-values used to determine statistical significance are as follows: weak is from 0.1 to 0.29, moderate is from 0.30 to 0.49, strong is from 0.50 to 1.00.

Table 7: Significant Differences Comparing Two Variables[1].

Statistically Significant	**r**	**p-value**
Age and Religion	-0.059	0.015
Education and Age	0.641	< 0.001

[1]Used Kendall's tau correlation with α=.05

Table 8: Approaching Statistical Significance Comparing Two Variables

Approaching Statistical Significance	**r**	**p-value**
Education and Ethnicity	-0.059	0.015
Education and Religion	-0.128	0.08
Menstrual Suppression and Age	0.107	0.08

[1]Used Kendall's tau correlation with α=.05

The central question in this research concerns the attitudes toward menstrual suppression, and in particular the question of how mothers' support of menstrual suppression for their adolescent daughters is influenced. In order to understand these relationships, I used Phi correlation coefficients to interpret all dichotomous data, excluding age. Table 9 represents statistically significant correlations and shows how both mother and daughter attitudes of support toward the use of menstrual suppression are influenced by either ethnicity or religion. Specifically, mothers who were Caucasian were slightly more likely to support their daughters' suppression of menses compared to all other mothers. In contrast, Hispanic mothers, as compared to the rest of the mothers, were more neutral towards supporting their daughter's

menstrual suppression. Likewise, mothers that were Catholic were more neutral towards supporting their daughters' suppression, as compared to all other mothers who were slightly more agreeable toward it. If the mothers are not Catholic, then the daughters' views of suppression tends to be more positive. When daughters are Catholic, their attitude toward suppression tends to be a little below neutral (slightly toward the negative side). In contrast, daughters who are not Catholic tend to be slightly more supportive of menstrual suppression. Data approaching statistical significance is represented in Table 10.

Table 9: Support of Suppression Depending on Ethnicity or Religion in Participants[1].

Statistically Significant	**r**	**p-value**
Mother Row Support Suppression * Mother_Ethnicity Caucasian	0.443	0.033
Mother_Row_support suppression * Daughter_Ethnicity_Hispanic	0.423	0.042
Daughter_Row_support suppression * Mother_Religion_Catholic	0.472	0.021
Daughter_Row_support suppression * Daughter_Religion_Catholic	0.457	0.03

[1]Used Phi correlation with α=.05

Table 10: Approaching Significance in Participants Support of Suppression[1].

Approaching Statistical Significance	**r**	**p-value**

Mother_Row_support suppression * Mother_Ethnicity_Hispanic	0.419	0.056
Mother_Row_support suppression * Daughter_Ethnicity_Asian	0.416	0.06
Daughter_Row_support suppression * Mother_Ethnicity_Caucasian	0.399	0.099
Daughter_Row_support suppression * Mother_Ethnicity_Hispanic	0.401	0.095

[1]Used Phi correlation with α=.05

Open-Ended Narrative Responses

Research participants were also offered the opportunity to narratively write-in responses in the "conclusions" section on the surveys. The results of participants responses to these open-ended questions indicate that among those mothers who chose to write a narrative response, the two dominant themes were either (A) an expression tending toward a positive attitude toward menstrual suppression or (B) an expression of caution. The fewest responses suggested disapproval of suppression (C).

I.) Mothers:

A.) Expression tending toward a positive attitude:

- *Poco Dolor, reposar menos, no faltar ala escuela.*
    - *Translation: A little bit of pain, stand less, I can't miss school.*

- *En mi experiencia pesonal, eada nz que intente controlar de alguna manera mi ciclo menustral, los effects recomenarios fuerion terribles no lo recomendlo prenso que se debe inurstrigar mas laceraol la raz del delproblema.*
    - *<u>Translation</u>: Through my personal experience, I have tried to control my menstrual cycle by any means. The recommended solutions were terrible and I would not recommend them. I believe that one should investigate more treatments and the root of the problem.*
- *Concerned about side effects-weight gain, blood pressure, clotting*
- *Providing suppression does not put my daughter at risk later in life for higher risk of cancer (breast, uterus, ovary, etc.) & under close doctor supervision-I'm open to it. Its been tragic seeing the negative impact to my 12 year old daughter's life as a result of her period. Having her back spasms & pop in my hand while she's in my arms is AWFUL.*
- *Would the premenstrual side effects cease as well? Interested if it doesn't harm my body or my child's body.*
- *I believe having period every month is not too bad, but a little adjustment can make a difference. (every two months will be just right for me).*
- *I am pre-menopausal. My husband had a vasectomy years ago. I would not want to have my period anymore as long as not harmful to my health. Enough is enough!*
- *I am close enough to menopause that I have no interest in this for myself, but if it is safe I would support it for others, including my daughter.*
- *My oldest daughter is currently suppressing her period due to complex medical issues. She has experienced no ill effects (that she can tell) as a result of menstrual suppression.*

B.) Expression tending toward caution:

- *Chemically altering a period would make me nervous. I am just beginning treatment for endometriosis.*
- *How does this work when an ablation has occurred and going through possible menopause? What are the long term effects on bone density etc?*
- *I'm just unsure of the long term consequences- if someone wants to, that's certainly their body-their choice. I'm just not big on taking medications to stop your body doing something it naturally does, just because your cycle is annoying etc……*
- *Not sure, new info!*
- *This decision will depend greatly on the after effects. 1) Can it cause other health issues? 2) Can it jeopardize future opportunities for child bearing? Need more education.*

C.) Expression tending toward disapproval of suppression:

- *Yo respeto los procesos naturales ohl ser hunano*
    - *Translation: I respect the natural process of being a human or I respect the natural human process.*

In contrast to the mothers, among the daughters who chose to write a narrative response the dominant themes is one of caution (A), with a single responded suggesting disapproval (B).

II.) Daughters:

A.) Expression tending toward caution:

- *Will stopping your period harm your body in any way? Make you sick? Have side effects?*
- *I'm a little unsure about it*

- *I would like to be informed of the progress of this research. Really interested.*
- *I didn't know about this beforehand. Perhaps if I had more background info on health risks, costs, and potential future side effects, my opinion would differ.*
- *I think it is unhealthy, and women should just deal with the natural process of life, it's there for a reason.*

B.) Expression tending toward disapproval of suppression:

- *I think it wouldn't be that safe, well, just because you should have it monthly.*

Observational Field Notes

Within the clinic I observed many interactions among the patients and the clinical staff. The lead physician, Dr. Simms-Cendan, was always greeting her patients with a friendly smile and inquiring about a patient's involvement in school, extra-curricular-activities, family life, etc. I even observed her personally coming into the waiting room and apologizing for an extended waiting time due to her adding a last minute appointment. This was a very pleasant gesture to observe since a complaint in the medical community among patients is that there might be some lack of communication and empathy among physicians in some clinics. When I noted this observation, Dr. Simms-Cendan compared how medicine is the same as working in guest services within other business where communication with the consumer is a natural and important aspect of this work. This was a very powerful concept that I learned from her in applying my own experience in a guest service position with any future interactions with patients I may have. This kind of care and communication was further extended to the clinical staff that I encountered during my participant observation. Upon my first few visits to the clinic I made many similar observations with her patients and their families. For instance, there was a young girl that came with her mother that have been to this clinic before who had given the lead physician a hug after her examination. I could tell from multiple situations that were similar to the one described above that Dr. Simms-Cendan is very respected and trusted among her patients. My observations about communication dynamics are important in helping explain the strong effectiveness of the clinic's patient education on compliance with treatment.

Another noted experience that I cherished from shadowing Dr. Simms-Cendan is an interaction I observed between her and a new patient who was accompanied by her mother and father. This young girl came from India to the United States the previous year and was

experiencing an irregular menstrual cycle where she had not had her menstruation for several months. Dr. Simms-Cendan greeted her and her parents and proceeded to have a pleasant conversation on how the daughter was adjusting to her new home and school, if she had made any friends, and what kinds of foods she liked to eat here. Once the patient started explaining how she really like McDonald's, sweet tea, Gatorade, and other fatty foods she had not experienced before, the physician had asked to examine the back of her neck and upon examination, the girl had a small dark discoloration patch behind her neck. This physical sign indicated that not only was the fatty foods she was eating disrupting her menstrual cycle, but she was also at risk for juvenile diabetes. The physician also gave a very detailed explanation on how a woman's menstrual cycle works by drawing the physiological process on a small white board detailing what hormones, glands, and gonads interact within the body. As I have mentioned, I did not know that detail of my own menstruation until I was an adult. I found it very reassuring that the lead physician cares very deeply about her patient's health education, and seeks to understand and consider each patient holistically within the patient's own sociocultural context.

Discussion

An interest of this study is to examine how educational levels may be a factor in support or not towards menstrual suppression. Several tests used in this study, such as the Phi and Kendall's Tau did not find any statistically significant data regarding educational level and support or no support for menstrual suppression. However, this does not mean that there is no correlation, with a larger sample size data may be interpreted differently.

Heath Information and Education

A substantial number of participants in this research were lacking reproductive and sexual health information, and my results in this study indicate there is a need to specifically increase education around woman's health among young women, with a focus on educating patients on the topic of menstrual suppression. Only 20.6% of daughters reported having learned health information at school. A study on sexual health education in Florida reported that only 16% of schools had a requirement to attend a sexual education class and even when there was a requirement to attend, parents too often reserved the right to control whether or not their children had access to receive this information (Dodge et.al., 2008). A new study in the U.S released in 2016, demonstrates that there are significant declines in formal sex education, and in particular concentrated among adolescents residing in rural areas where receiving instruction about birth control declined from 71% to 48% among women (Fewer U.S. Teens Are Receiving Formal Sex Education Now Than in the Past, 2016). It would be interesting to see if daughters from this study were effected in a similar way based on where they attended school. This was not addressed in the survey, but if this study were to be expanded, learning the how this access to sex education information offered in disparate sex education models is potentially shaping attitudes toward suppression would be useful.

Similar to other studies, the main source of primary health information, including about sexual and reproductive health, that daughter's received were from their families. This might be the parents' response to inadequate sex education offered in the child's school or it may be a result of some parents claiming their right to control their child's sexual health information. The latter category would be consistent with the Catholic Church's recent call on parents to take over sex education of their children. Specifically, the Vatican released in 1995 the "Guidelines for Education within the Family" in response to the increasing presence of sex education programs in schools and their perceived by the church danger of promoting sexual activity before marriage (Lopez Trujillo 1995). These Guidelines state that only sex education that assumes "chastity" until marriage and promotes preparation to start a family should be taught to their adolescent children. This form of sex education stands in contrast to patient and sex education as understood in the clinic setting from the perspectives of health, gender, and social knowledge.

Religion

The role of religion in shaping reproductive and sexual knowledge and practices is complicated. In this study, even though there was not a significant amount of support on whether or not religion has a strong influence on menstrual suppression, there was however a slight trend on the influence of Catholicism on research participants. Mothers that were Catholic were more neutral towards supporting their daughters' suppression, as compared to all other mothers who were slightly more agreeable toward it. Even Catholic daughters had a slightly more negative view of menstrual suppression compared to other daughters who had other religious affiliations. This result is consistent with the Vatican's key position enshrined in the 1968 "Encyclical Humanae Vitae: On the Regulation of Birth" which states that the church is against "all forms of

contraception, except for chastity," and against any manipulation of the body that might impede the natural reproductive processes (Paul VI 1968, 6,9).

Yet, In other studies in strongly Catholic settings like Poland or Mexico, results showed that Catholicism played a relatively small role in respondents' contraceptive decisions; though 94.2% of respondents were Catholic, 79% reported that the Church had little or no influence on reproductive decisions, including the choice of whether or not to use hormonal contraceptives, which are clearly prohibited by the church (Mishtal and Dannefer 2010:233). Ethnographic research in Mexico, showed that while many women in these settings clearly identify with Catholicism, they also used "interpretive agency" to mold Catholic tenets for their own needs (Hirsch 2008). These studies offer explanations for statistical reports showing that 98% of sexually experienced Catholic women have used some form of contraceptive method, other than "natural" (Jones and Dreweke, 2011). But Mexican women's interpretive agency about religion restrictions was more pronounced in the urban areas where the church generally has less direct influence on people than in rural areas where there may be only single parish (Hirsch 2008). So one can theorize that if the urban /rural differences in religious influence hold true for the US, then in Orlando perhaps the role of Catholicism is not very limiting for both contraceptive use and menstrual suppression.

Attitudes towards Menstrual Suppression

Most of the daughters have never heard of menstrual suppression. The 23.9% that have heard of menstrual suppression credited their knowledge to a number of information sources, including friends, health professionals, and the media. Majority of mothers also indicated how they never heard of menstrual suppression. Mothers also reported that 84.3% never even heard of

the possibility of manipulating their menstruation. It is not surprising that there is a lack of educational interaction among mothers and daughters on the topic of menstrual suppression because even mothers in this study did not suppress their menstruation or possessed enough knowledge to consider it an option for their daughters.

Of the six daughters who responded in the open-ended question, three inquired more on needing more information, if there are any risks or future side effects involved with menstrual suppression. Even though there was a wide variation of responses towards attitudes of menstrual suppression, the trend indicated that daughters were more neutral or cautious to the idea of stopping their period as compared to mothers who were slightly more in favor of menstrual suppression. This is not supportive of previous studies conducted in Mexico and Brazil where there was a negative correlation that as age increased, support for menstrual suppression decreased (Marvan and Lama, 2009, Estanislau et.al., 2005). Perhaps this discrepancy could be hypothesized as reflecting, in part, different research methods: the Estanislau et.al study (2005) which shows that Brazilian women associated menstruation with womanhood used focus groups only, in which women might have been less comfortable to admit in front of peers (rather than in individual surveys) to openness to menstrual suppression as it could be taken as subverting the cultural understanding of femininity. However, the Marvan and Lama study (2009) did use individual surveys with Mexican women, and the results still showed a desire to conform to feminine norms among older women, and therefore negative attitude toward suppression. If cultural conformity to feminine norms is emerging as a strong factor in Mexican and Brazilian cultures among older women it is possible that this result aligns with the finding in my own study that Hispanic mothers (a category which was not separated by country of origin) were

more neutral towards supporting their daughter's menstrual suppression, as compared to the rest of the mothers (mainly Caucasian) who were more positive. Perhaps then the above discrepancy has less to do with age and more with the cultural and ethnic background of the research participant. In other words, perhaps the overall positive correlation in my study of age and suppression attitudes maybe be due to the fact that only 23.6% of the sample identified as Hispanic.

There were a variety of responses from mothers regarding the concern of menstrual suppression for their daughters. One mother in support of suppression for her daughter was concerned more about her daughter's poor quality of life due to the negative impact of her menstruation and would be open to controlling her daughter's period. Another mother mentions how her daughter is currently suppressing her menstruation due to complex medical issues and has so far not experienced any ill health effects. Despite the generally positive attitudes, many mothers were unsure of this topic since they have never heard of it, but the main concerns, similar to daughter reports, was if there were any long term side effects that might harm their daughters. In a study on evaluating caregiver knowledge of menstruation towards daughters that have developmental delays, all mothers indicated an interest that to learn more about contraceptive options for their daughters (Patel, Simms-Cendan, and Pandya, 2015). Only one mother expressed a strong disapproval of menstrual suppression stating that she respects the natural human process. There was a strong correlation between being a Caucasian mother and a slight expectance of support towards menstrual suppression compared to other ethnicities. Specifically, mothers who were Caucasian were slightly more likely to support their daughters' suppression of menses compared to all other mothers. In contrast, Hispanic mothers, as

compared to the rest of the mothers, were more neutral towards supporting their daughter's menstrual suppression.

Limitations and Improvements

This study has some limitations, in particular as related to the survey instruments. Although the instruments were for the most part adapted from previously used surveys and therefore likely validated in those studies, my research shows that some important improvements are called for in these instruments. In Section I of the survey instrument, the question of "what is your religion" is limited in the number of religious options. Among my responses, 40%-50% participants reported "Other" as a religion. An improved instrument should include additional religious categories such as Baptist, Hinduism, Islamic, Jehovah Witness, Lutheran, Methodist, Presbyterian, and Non-denominational. There can also be a write-in section for the "other" category so to ensure that no affiliations are left out. An important aspect of anthropological writing is to examine health issues in the context of cultural influences and how individuals than construct and negotiate them within their social paradigm. I would also add to the daughter survey a question about how a daughter perceives her mother's menstruation, menstrual suppression, and menopause, asking similar questions that the mother survey addresses in Section V. This would allow a more holistic approach in seeking to understand how daughters' perceive their mother's menstruation. In Section III of both mother and daughter surveys, the question of "if you have ever used hormonal birth control, have you ever manipulated it in order to skip your period" was skipped by 24 daughters. This large amount of missing data may be due to the negative connotation typically associated with the word "manipulation" which can be synonymous tampering or being deceitful. A better term to use here could be "regulated" which

would be a more neutral word and one that is typically used in a clinical setting and in popular discourses when contraceptive use is discussed in the context of menstrual regulation. Another potential limitation relates to the fact that this clinic's patients, and therefore out research participants, were seeking medical advice due to abnormal menstruation. To address this issue, a researcher could conduct this project to local pediatricians that serve as the portal of entry to the more general population of patients to assess menstrual knowledge among daughters and parents who are not already seeking menstrual advice.

Conclusion and Contributions

Within this thesis, I have examined the mother-daughter dynamic in the topic of menstrual health and how perceptions can be shaped by demographic factors. There was a slight correlation between ethnicity and religion in shaping support of menstrual suppression. Mothers and daughters that were affiliated with the Catholic Church were had a more neutral or slightly negative stance on menstrual suppression compared to those who had other religious affiliations. On examining ethnicity among mothers supporting their daughter's menstruation, Hispanic mothers were more neutral in supporting their daughter's decision while Caucasian mothers would be slightly more supportive.

This research study contributes to anthropology scholarship because it addresses perceptions that woman have toward menstrual health, specifically focusing how these perceptions are created through the mother and daughter relationship. Anthropology seeks to understand all aspects of a person's life throughout time. It is vital not only to look at this mother daughter relationship but also how growing pharmaceutical and menstrual hygiene companies have marketed a woman's period. In general, society has now shifted a focus from avoiding pregnancy to avoiding menstruation. Even though the majority of mothers and daughters had no knowledge of what menstrual suppression is, many were interested in finding out more information.

This desire to understand benefits and costs of menstrual suppression indicate that there may be a lack of education on this subject. Awareness that there is a lack of education can better prepare healthcare professionals to addressing the concerns patients have toward their menstruation. This study can also contribute to gender studies in examining how mother's

perceptions of menstruation may affect their daughter's access to educational resources. Even when sex education courses were available in high school, parents reserved the right to block access to these educational services. It would be interesting to see how future research can examine if this parental right is a factor in why so many young girls reported their family as a main source of health information.

Further research can be designed in understanding how ethnicity and religion play a part in creating specific discourses relating to women's perceptions of menstruation. Scholarship would also benefit from obtaining a larger sample size and to conduct in depth semi-structured interviews with mothers and daughters to gain a deeper insight about the trends that are reflected in existing quantitative surveys. An approach with these mixed-method studies of surveys and interviews will greatly contribute to connecting menstrual discourses associated with age, socioeconomic status, religion, ethnicity, nationality, and education. Through a deeper understanding of these dynamics health care providers who address the needs of adolescents can have a more holistic view of how their patients view menstruation, and can be better prepared in administering information and educating their patients. These improvements in turn can further strengthen the quality of care provided in the pediatric and adolescent medicine setting.

APENNDIX A: IRB APPROVAL LETTER

ORLANDO HEALTH
When it matters most.

1414 Kuhl Ave.
Orlando, FL 32806
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FWA # 00000384

DATE:	September 23, 2014
TO:	Judith Simms-Cendan, MD
FROM:	Arnold Palmer Medical Center (APMC) IRB
PROJECT TITLE:	[486303-2] Mothers vs. Daughters: Attitudes Toward Menstrual Suppression
REFERENCE #:	13.136.08
SUBMISSION TYPE:	Amendment/Modification
ACTION:	APPROVED
APPROVAL DATE:	September 23, 2014
STUDY EXPIRATION DATE:	November 18, 2014
REVIEW TYPE:	Expedited Review

Thank you for your submission of Amendment/Modification materials for this project. The following items were received:

- Amendment/Modification - Amendment Revision Form (UPDATED: 09/20/2014)
- Amendment/Modification - Change in Personnel Form (UPDATED: 08/15/2014)
- CV/Resume - CV for Jacqueline Devaney (UPDATED: 07/14/2014)
- CV/Resume - CV for Dr. Joanna Mishtal (UPDATED: 07/14/2014)
- Orlando Health - IRB Application - Orlando Health - IRB Application (UPDATED: 07/14/2014)
- Protocol - Updated Protocol dated 9/20/2014 (UPDATED: 09/20/2014)
- Protocol - Track Changes Copy of Updated Protocol (UPDATED: 09/20/2014)

The Arnold Palmer Medical Center (APMC) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation. The Arnold Palmer Medical Center (APMC) IRB is organized and operates in compliance with DHHS regulations as described in 45 CFR part 46, i.e. The Common Rule, FDA regulations as described in 21 CFR Parts 50 and 56, and guidelines resulting from the International Conference on Harmonisation (ICH) E-6 Good Clinical Practice guidelines as appropriate.

In addition, the Arnold Palmer Medical Center (APMC) IRB operates in compliance with portions of the Health Insurance of Portability Act of 1996 (HIPAA Privacy Rule) that apply to research, as described in 45 CFR Parts 160 and 164 as appropriate.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

If you have any questions, please contact the IRB Office at (321) 841-5895. Please include your project title and reference number in all correspondence with this committee.

Sincerely,

David Nykanen, MD - Co-Chairman of the APMC Institutional Review Board

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Arnold Palmer Medical Center (APMC) IRB's records.

Orlando Health Facilities: • ARNOLD PALMER HOSPITAL FOR CHILDREN • SOUTH SEMINOLE HOSPITAL • UF HEALTH CENTER AT ORLANDO HEALTH • WINNIE PALMER HOSPITAL FOR WOMEN & BABIES • SOUTH LAKE HOSPITAL • DR. P. PHILLIPS HOSPITAL • ORLANDO REGIONAL MEDICAL CENTER • HEALTH CENTRAL HOSPITAL

APPENDIX B: STUDY INFORMATION SHEET

Mothers vs. Daughters: Attitudes Toward Menstrual Suppression

Principal Investigator
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Co-Investigator:
Diane Brackett
Medical Student, University of Central Florida College of Medicine
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- You are being asked to participate in a research study about how mothers and teenage daughters feel about menstrual suppression, which means choosing to have your period less often or not at all. This is done by taking medication, such as birth control pills.
- You are eligible to participate in this study if you:
  - Are a mother (or other female relative, caregiver, or guardian) of the patient being seen at the clinic today.

  OR
  - Are twelve to eighteen years old and have had your period.
- The research procedures involve filling out a survey that should take no more than fifteen minutes. Surveys will be filled out in the waiting room or exam room while you are waiting for your appointment. All answers are anonymous, and no personally identifiable information will be asked.
- We do not think you will have any discomfort from taking this survey, but it might bother you a little to answer questions about your period.
- This study may provide an opportunity for you to learn about menstrual suppression (stopping periods). This study will tell doctors about how mothers and daughters feel about stopping periods. This can help doctors better understand and care for their adolescent patients.
- Participation in this study is voluntary. There is no cost to you for participating. You may refuse to participate. You may choose to skip a question or stop the survey at any time. Your care (or your daughter's care) will not be affected.
  - Mothers: You may request to look at a copy of the "Patient/Daughter" survey before you decide to participate.
- Mothers and daughters will each receive $5.00 for participating in this study.
- All research data collected will be stored securely in a locked office at this clinic. All data will be entered into a password-protected computer. Only authorized researchers and Orlando Health personnel will have access to the study materials.
- If you have any comments, concerns, or questions regarding the conduct of this research please contact the researchers listed at the top of this form.

- If you are unable to reach the researchers listed at the top of the form and have general questions, or you have concerns or complaints about the research, or questions about your rights as a research subject, please contact the Arnold Palmer Medical Center IRB by phone at (321) 841-5895.

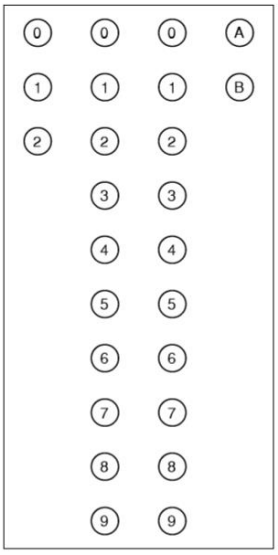
You are not required to sign a consent form to participate in this study. However, you must let Dr. Simms-Cendan or her staff know **whether or not you wish to participate**.

You will receive a copy of this information to take home with you.

APENNDIX C: MOTHER SURVEY INSTRUMENT

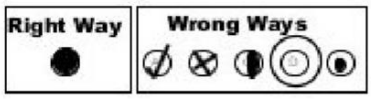
Menstrual Suppression Survey for Caregivers (Mothers)

For office use only.



INSTRUCTIONS

Using a pencil, please identify your responses by shading the bubble corresponding to your selection(s) for each item. It is important that you fill in the bubbles *neatly and completely*.



Completion of the survey indicates your consent to participate in this research project. Thank you for your consideration.

Section I. Participant Details

1. What is your age?

_____

2. What is your relationship to the patient?

① Guardian
② Mother
③ Stepmother
④ Other: _____

3. What best describes your ethnicity? Select all that apply.

① African American
② Asian
③ Caucasian
④ Hispanic or Latino
⑤ Other
⑥ I prefer not to answer.

4. What is your religion? Select all that apply.

① Catholic
② Jewish
③ Mormon
④ Protestant
⑤ Not affiliated
⑥ Other
⑦ I prefer not to answer.

5. What is your occupation?

_____

6. What is your marital status?

① Married
② Single
③ Divorced
④ Separated
⑤ Widowed
⑥ Other

7. What is the highest level of education you have completed?

① Some high school or less
② High school
③ Some college
④ College degree
⑤ Graduate degree

8. Where do you get most of your health information? Select all that apply.

① Family
② Health care provider
③ Internet / Computer
④ Magazines, books, newspapers
⑤ Peers
⑥ Television
⑦ Other

Section II. Your Menstrual Cycle

If you no longer have your periods, please answer the questions based on how you felt when you did have your periods.

1. How old were you when you had your first period?

_____

2. In the last 12 months, how many periods have you had?

① None
② 6 or less
③ 7 to 9
④ 10 or more

3. On average, low long do your periods last?

① Less than 3 days
② 3 – 7 days
③ More than 7 days

4. How many pads or tampons do you change each day on your heaviest day(s) of bleeding?

① 1 – 2 or less
② 3 – 5
③ 6 or more

5. Do you have spotting or bleeding between periods?

Ⓨ Yes
Ⓝ No

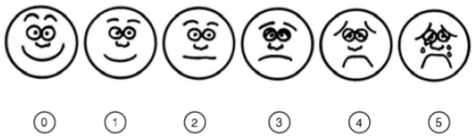
6. Do you have pain or cramping with your periods?

Ⓨ Yes
Ⓝ No

7. If you have pain with your periods, how would you rate your pain?

Use the "Faces" scale, where 0 = no pain, 5 = severe pain.

Rating Scale



⓪ ① ② ③ ④ ⑤

8. Do you have mood swings, bloating, breast tenderness, fatigue, irritability (grumpiness), or other symptoms the week before your period starts?

Ⓨ Yes
Ⓝ No

9. If yes to above question, how would you rate your symptoms?

① No symptoms
② Minimal symptoms
③ Moderate symptoms
④ Severe symptoms

Continued from page 3.

10. Have you ever taken over-the-counter medications for pain/cramping? Select all that apply.

① Anaprox (Aleve)
② Ibuprofen (Advil, Motrin)
③ Midol
④ Pamprin
⑤ Other

11. Have you ever been given medication or had any surgery related to your period? Select all that apply:

① Birth control pills
② Dilation and curettage (D&C)
③ Endometrial ablation (removal of the lining of the uterus)
④ Hysterectomy (removal of the uterus)
⑤ Implant
⑥ Injection (hormone shot)
⑦ Intrauterine Device (IUD)
⑧ Patch
⑨ Vaginal ring
⑩ Other

Have your periods ever:	**Often**	**Sometimes**	**Never**
Caused you to miss school or work?	ⓞ	ⓢ	ⓝ
Gotten in the way of everyday activities?	ⓞ	ⓢ	ⓝ
Kept you from participating in exercise or sports (for example, swimming, hiking, or camping)?	ⓞ	ⓢ	ⓝ

Section III. Reproductive Health History

1. Please select <u>all</u> methods of birth control that you have <u>ever used</u> (currently and in the past).

① Oral contraceptives (birth control pills)
② Condoms
③ Patch
④ Vaginal ring (NuvaRing)
⑤ Implant (Implanon)
⑥ Intrauterine device (IUD, Mirena, Para-Guard)
⑦ Injection (hormone shot)
⑧ Other
⑨ I've never taken birth control.

2. If you have ever used hormonal birth control (pills, patches, rings), have you ever manipulated it in order to skip your period? For example, skipping the placebo week of birth control pills.

① No, never.
② Yes, but rarely.
③ Yes, often.

3. Are you postmenopausal?

Ⓨ Yes Ⓝ No

4. Have you ever been on Hormone Replacement Therapy?

Ⓨ Yes Ⓝ No

Section IV. Attitudes Toward Your Period and Menstrual Suppression (stopping your period)							
	Rating Scale						
If you no longer have your periods, please answer the questions based on how you felt when you did have your periods. **Rate the extent to which you agree with each of the following statements by shading the bubble for a rating on the scale provided, where 1 = Strongly Disagree and 7 = Strongly Agree.**	**Strongly disagree**	**Disagree**	**Somewhat disagree**	**Neutral**	**Somewhat agree**	**Agree**	**Strongly Agree**
I am more tired than usual when I am having my period.	①	②	③	④	⑤	⑥	⑦
I am worse at sports when I am on my period.	①	②	③	④	⑤	⑥	⑦
I cannot expect as much of myself during menstruation compared to the rest of the month.	①	②	③	④	⑤	⑥	⑦
I don't allow the fact that I'm menstruating to keep me from doing my usual activities.	①	②	③	④	⑤	⑥	⑦
Skipping certain activities during my period is often very wise.	①	②	③	④	⑤	⑥	⑦
A period is something I just have to put up with.	①	②	③	④	⑤	⑥	⑦
My period is important for letting me know I'm not pregnant.	①	②	③	④	⑤	⑥	⑦
In some ways I enjoy my periods.	①	②	③	④	⑤	⑥	⑦
A period allows women to be more aware of their bodies.	①	②	③	④	⑤	⑥	⑦
A monthly period means that I am healthy.	①	②	③	④	⑤	⑥	⑦
Menstrual suppression means using medication to stop periods or to make them occur less often. ***I would be interested in menstrual suppression (stopping my period) to…***							
Reduce pain.	①	②	③	④	⑤	⑥	⑦
Have fewer problems during my periods.	①	②	③	④	⑤	⑥	⑦
Have less days of bleeding.	①	②	③	④	⑤	⑥	⑦
Make my periods lighter.	①	②	③	④	⑤	⑥	⑦
Because sometimes I just do not want my period.	①	②	③	④	⑤	⑥	⑦
I would be willing to try delaying or stopping my periods.	①	②	③	④	⑤	⑥	⑦
I would be interested in not having my period if it did not hurt me in the long run.	①	②	③	④	⑤	⑥	⑦

Continued from page 5.

	Rating Scale						
	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly Agree
If my period disappeared, I would not miss it.	①	②	③	④	⑤	⑥	⑦
I support women's ability to stop their periods.	①	②	③	④	⑤	⑥	⑦
I believe that having a period every month is harmful for some girls and women.	①	②	③	④	⑤	⑥	⑦
Even if it were free and completely safe, I would not be interested in stopping my periods.	①	②	③	④	⑤	⑥	⑦
It would make me nervous or worried to not have a period.	①	②	③	④	⑤	⑥	⑦
I am worried that stopping my periods now will make it hard to have a baby later.	①	②	③	④	⑤	⑥	⑦
A lot more research should be done on this topic.	①	②	③	④	⑤	⑥	⑦
I am interested in learning more about stopping my period.	①	②	③	④	⑤	⑥	⑦

Section V. Attitudes Toward Your Daughter's Period and Menstrual Suppression (stopping her period)

Please answer the following questions regarding your daughter's periods.

When your daughter has her period, how much pain or discomfort do you think she usually experiences?

① Little to none
② Mild
③ Moderate
④ Severe

If your daughter was interested in menstrual suppression (stopping her period), would you support it?

① Yes
② No
③ Maybe, it depends
④ Not sure

How do you think your daughter's periods affect her everyday life, such as school, sports, and other activities?

① Little to no effect
② Mildly affects
③ Moderately affects
④ Severely affects

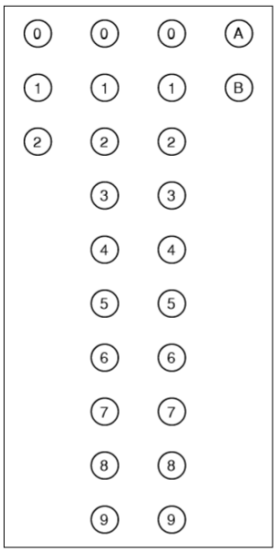
Section VI. Conclusion	
How often would you want a period? ① Monthly ② Less than monthly ③ Never **Before today, had you ever heard of menstrual suppression (stopping periods)?** Ⓨ Yes Ⓝ No	**If yes, how did you learn about it? Select all that apply.** ① Friends ② Health professionals ③ Media (examples: computer/Internet, magazines) ④ School ⑤ Work ⑥ Other
In the space below, please include any additional comments you wish to share regarding menstrual suppression (skipping periods).	

We thank you so much for taking the time to complete this survey!

APPENDIX D: DAUGHTER SURVEY INSTRUMENT

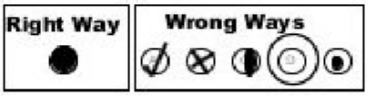
Menstrual Suppression Survey for Patients (Daughters)

For office use only.



INSTRUCTIONS

Using a pencil, please identify your responses by shading the bubble corresponding to your selection(s) for each item. It is important that you fill in the bubbles *neatly and completely*.



Completion of the survey indicates your consent to participate in this research project. Thank you for your consideration.

Section I. Participant Details

1. What is your age?

_____

2. What best describes your ethnicity? Select all that apply.

① African American
② Asian
③ Caucasian
④ Hispanic or Latino
⑤ Other
⑥ I prefer not to answer.

3. What is your religion? Select all that apply.

① Catholic
② Jewish
③ Mormon
④ Protestant
⑤ Not affiliated
⑥ Other
⑦ I prefer not to answer.

4. Are you in school (including homeschooling)? If it is the summer, use the level you just completed.

Ⓨ Yes, my current level is:

_____

Ⓝ No, the highest level I went to is:

_____

5. Where do you get most of your health information? Select all that apply.

① Family
② Health care provider
③ Internet / Computer
④ Magazines, books, newspapers
⑤ Peers
⑥ School
⑦ Television
⑧ Other

Section II. Your Menstrual Cycle

1. **How old were you when you had your first period?**

   _____

2. **In the last 12 months, how many periods have you had?**

   ① None
   ② 6 or less
   ③ 7 to 9
   ④ 10 or more

3. **On average, low long do your periods last?**

   ① Less than 3 days
   ② 3 – 7 days
   ③ More than 7 days

4. **How many pads or tampons do you change each day on your heaviest day(s) of bleeding?**

   ① 1 – 2 or less
   ② 3 – 5
   ③ 6 or more

5. **Do you have spotting or bleeding between periods?**

   Ⓨ Yes
   Ⓝ No

6. **Do you have pain or cramping with your periods?**

   Ⓨ Yes
   Ⓝ No

7. **If you have pain with your periods, how would you rate your pain?**

   Use the "Faces" scale, where 0 = no pain, 5 = severe pain.

Rating Scale

⓪ ① ② ③ ④ ⑤

8. **Do you have mood swings, bloating, breast tenderness, fatigue, irritability (grumpiness), or other symptoms the week before your period starts?**

   Ⓨ Yes
   Ⓝ No

9. **If yes to above question, how would you rate your symptoms?**

   ① No symptoms
   ② Minimal symptoms
   ③ Moderate symptoms
   ④ Severe symptoms

Continued from page 3.

10. Have you ever taken over-the-counter medications for pain/cramping? Select all that apply.

① Anaprox (Aleve)
② Ibuprofen (Advil, Motrin)
③ Midol
④ Pamprin
⑤ Other

11. Have you ever been given medication or had any surgery related to your period? Select all that apply:

① Birth control pills
② Implant
③ Injection (hormone shot)
④ Intrauterine Device (IUD)
⑤ Patch
⑥ Vaginal ring
⑦ Other

Have your periods ever:	**Often**	**Sometimes**	**Never**
Caused you to miss school or work?	(O)	(S)	(N)
Gotten in the way of everyday activities?	(O)	(S)	(N)
Kept you from participating in exercise or sports (for example, swimming, hiking, or camping)?	(O)	(S)	(N)

Section III. Reproductive Health History

1. Please select all methods of birth control that you have ever used (currently and in the past).

① Condoms
② Implant (Implanon)
③ Injection (hormone shot)
④ Intrauterine device (IUD, Mirena, Para-Guard)
⑤ Oral contraceptives (birth control pills)
⑥ Patch
⑦ Vaginal ring (NuvaRing)
⑧ Other
⑨ I've never taken birth control.

2. If you have ever used hormonal birth control (pills, patches, rings), have you ever manipulated it in order to skip your period? For example, skipping the placebo week of birth control pills.

① No, never.
② Yes, but rarely.
③ Yes, often.

Section IV. Attitudes Toward Your Period and Menstrual Suppression (stopping your period)							
	Rating Scale						
Rate the extent to which you agree with each of the following statements by shading the bubble for a rating on the scale provided, where 1 = Strongly Disagree and 7 = Strongly Agree.	**Strongly disagree**	**Disagree**	**Somewhat disagree**	**Neutral**	**Somewhat agree**	**Agree**	**Strongly Agree**
I am more tired than usual when I am having my period.	①	②	③	④	⑤	⑥	⑦
I am worse at sports when I am on my period.	①	②	③	④	⑤	⑥	⑦
I cannot expect as much of myself during menstruation compared to the rest of the month.	①	②	③	④	⑤	⑥	⑦
I don't allow the fact that I'm menstruating to keep me from doing my usual activities.	①	②	③	④	⑤	⑥	⑦
Skipping certain activities during my period is often very wise.	①	②	③	④	⑤	⑥	⑦
A period is something I just have to put up with.	①	②	③	④	⑤	⑥	⑦
My period is important for letting me know I'm not pregnant.	①	②	③	④	⑤	⑥	⑦
In some ways I enjoy my periods.	①	②	③	④	⑤	⑥	⑦
A period allows women to be more aware of their bodies.	①	②	③	④	⑤	⑥	⑦
A monthly period means that I am healthy.	①	②	③	④	⑤	⑥	⑦

Continued from page 5.							
	Rating Scale						
	Strongly disagree	**Disagree**	**Somewhat disagree**	**Neutral**	**Somewhat agree**	**Agree**	**Strongly Agree**
Menstrual suppression means using medication to stop periods or to make them occur less often. ***I would be interested in menstrual suppression (stopping my period) to…***							
Reduce pain.	1	2	3	4	5	6	7
Have fewer problems during my periods.	1	2	3	4	5	6	7
Have less days of bleeding.	1	2	3	4	5	6	7
Make my periods lighter.	1	2	3	4	5	6	7
Because sometimes I just do not want my period.	1	2	3	4	5	6	7
I would be willing to try delaying or stopping my periods.	1	2	3	4	5	6	7
I would be interested in not having my period if it did not hurt me in the long run.	1	2	3	4	5	6	7
If my period disappeared, I would not miss it.	1	2	3	4	5	6	7
I support women's ability to stop their periods.	1	2	3	4	5	6	7
I believe that having a period every month is harmful for some girls and women.	1	2	3	4	5	6	7
Even if it were free and completely safe, I would not be interested in stopping my periods.	1	2	3	4	5	6	7
It would make me nervous or worried to not have a period.	1	2	3	4	5	6	7
I am worried that stopping my periods now will make it hard to have a baby later.	1	2	3	4	5	6	7
A lot more research should be done on this topic.	1	2	3	4	5	6	7
I am interested in learning more about stopping my period.	1	2	3	4	5	6	7

Section V. Conclusion	
How often would you want a period? ① Monthly ② Less than monthly ③ Never **Before today, had you ever heard of menstrual suppression (stopping periods)?** Ⓨ Yes Ⓝ No	**If yes, how did you learn about it? Select all that apply.** ① Friends ② Health professionals ③ Media (examples: computer/internet, magazines) ④ School ⑤ Work ⑥ Other
In the space below, please include any additional comments you wish to share regarding menstrual suppression (skipping periods).	

We thank you for taking the time to complete this survey!

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