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THE IMPACT OF RELIGIOUS BELIEFS OF MEDICAL PRACTITIONERS
ON THE PRESCRIBING OF CONTRACEPTIVES

A MASTER'S PROJECT SUBMITTED TO THE GRADUATE FACULTY
GRADUATE SCHOOL BETHEL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTERS OF SCIENCE IN PHYSICIAN ASSISTANT

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ABSTRACT

For centuries, the use of artificial birth control has been a highly debated topic across different religions and this debate continues to remain strong even today. Living in a country made up of diverse cultural backgrounds and beliefs, religious differences may influence the way practitioners and patients interact with each other when it comes to a variety of medical issues, especially contraception. There is a lack of research, however, that has been done to evaluate for a significant correlation between religious views of practitioners and their tendencies to prescribe contraceptives to patients.

A questionnaire was distributed to the Association of Physician Assistants in Obstetrics and Gynecology (APAOG) to determine what impact, if any, the religious affiliations and beliefs of medical practitioners have on the prescribing of long-term contraceptive options to patients. The study included demographic questions, religious background questions, questions regarding prescribing habits of practitioners, and questions addressing religious influence on patient-practitioner interactions relating to contraception.

Twenty-four (24) participants responded to the survey, but only 17 participants completed the survey in its entirety. Of the 17 participants, religious views were widely varied, with the majority of participants identifying as Protestant (41.2%). Upon analysis, there was statistical significance found between the participants perceived importance of religion on their everyday medical practice and the conversations they have with patients in regards to contraception ($p= 0.00$). Other analyses, including specific religion and influence of religious views on conversations and prescribing of contraception, were not found to be statistically significant.

Despite the statistical significance found on analysis, researchers are not convinced there is a correlation between religious views and the prescribing of contraception. Due to the small sample size, this study served as a starting point for the exploration of the influence religious values have on the prescribing of contraceptive methods. This study would benefit from future research expanding on the topic.

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Chapter 1: Introduction

Introduction

The use of artificial birth control is a topic that has been debated for centuries. It continues to be a controversial subject within multiple religious groups and cultures in present day. Yet, women all over the world use contraception on a regular basis despite their religious affiliations (Daniels, Daughtry, & Jones, 2014). In this study, we aim to discover what role, if any, religious beliefs or values have on the prescribing of contraceptives. The following introduction will cover some history in relation to this question, the problem statement, purpose, limitations, and research question, including reasons why this research needs to be done.

Background to the Problem

In his encyclical published in 1968, Pope Paul VI discussed the views of the Church in relation to the goals of a marriage, obligations of the married couple, and a continued opposition towards the use of artificial contraception (Komonchak, 2003). In this publication, the Pope specifically addressed the roles and responsibilities of the medical community in regards to this topic.

Likewise, we hold in the highest esteem those doctors and members of the nursing profession who, in the exercise of their calling, endeavor to fulfill the demands of their Christian vocation before any merely human interest. Let them therefore continue constant in their resolution always to support those lines of action which accord with faith and with right reason (Paul VI, 1968, para. 27).

When *Humanae Vitae* was first released, it was described as one of the most controversial statements ever released by the Catholic Church in its history (Komonchak, 2003). Although the principles described within the encyclical are still taught widely across the Catholic community in today's society, there is no doubt that individuals have changed the way they view artificial contraception. Although Pope Francis has repeatedly voiced the Church's continued opposition to any artificial birth control, it is clear that the topic has recently become more widely discussed among theologians, as well as among the 1.2 billion followers of the Roman Catholic Church, in recent years (LeMaire, 2015).

Of the 61 million women in the United States who are at an age able to conceive and bear a child, approximately 62% are using some form of contraception as of September 2016 according to the Guttmacher Institute (Jones & Dreweke, 2016). In the National Survey of Family Growth done from 2011-2013 by the CDC, it was reported that 16.0% of women currently using birth control were using oral contraception, and 7.2% were using other long-acting reversible methods (Daniels et. al, 2014). Other forms of birth control being used include female sterilization, male sterilization, and male condoms. Additionally, 99% of women of childbearing age that have previously had sexual intercourse have admitted to using some form of birth control at one point in her life (Jones & Dreweke, 2016). In a separate report done by the Guttmacher institute using data collected in the 2006-2008 National Survey of Family Growth, authors Rachel K. Jones and Joerg Dreweke (2016), summarized the correlation between religious beliefs of women using some form of contraception at that time. Of the women who participated in the survey, 83% identified as identifying with a religion; within that 83%, 48% were

identified as Protestant, 25% Catholic, and 11% non-Christian religions. The report also found that 68% of sexually active Catholic women in the United States confirmed to be currently using what was described as a “highly effective” method of contraception, including sterilizations, oral pills, and IUDs. It was concluded that the vast majority of women of childbearing age who affiliate with a specific religion have used some form of contraception in their lifetime (Jones & Dreweke, 2016).

Dozens of birth control methods are currently on the market as options for both men and women. Methods are characterized into reversible and permanent options, with the reversible methods being divided into both short-term and long-term options (Centers for Disease Control and Prevention (CDC), 2016). Of the reversible methods currently available, the four main categories include intrauterine contraception, hormonal methods, barrier methods, and fertility awareness-based methods. Permanent methods can be further divided into female sterilization, transcervical sterilization, and male sterilization (CDC, 2016).

Religious integration within medical practice is a widely discussed topic among both practitioners and patients in our world today. Differing religious views may not only influence the way a practitioner prescribes medications or recommends various therapies, it also may change the way a patient approaches their personal medical care. With the growing number of adherents to diverse religious beliefs in modern society, it may be assumed that there are different viewpoints in regards to various medical practices. One of the most controversial medical practices that has been widely argued over the last several decades is that of contraception (Christopher, 2006). Various Christian denominations have had strong, changing opinions in regards to contraception over the

last century (Komonchak, 2003). Therefore, to be a successful medical practitioner in modern society, it is vital to be aware and respectful of differing teachings regarding contraception (Christopher, 2006). Religious beliefs on the use of contraceptives have become even more widely discussed within the last decade since the Patient Protection and Affordable Care Act was implemented by the United States government. It is believed by some Christians, and more specifically Catholics, that the government is overstepping its boundaries and crossing the line into religious teachings and beliefs by implementing such an act (Zimmer, Welie, & Rendell, 2013). For, within this act, all insurance health plans are mandated to cover all contraceptive agents despite the religious beliefs of those institutions or medical personnel providing the care (Zimmer, Welie, & Rendell, 2013). This then begs the question of whether or not all medical practitioners who affiliate strongly with a Christian religion feel as though this is an injustice to not only their beliefs, but also to the way they practice medicine. Religion can be a sensitive topic in any setting for those with differing beliefs.

This study aims to discover what impact personal faith or religious beliefs of medical practitioners have on the discussion of contraception [with their patients]. It is also of importance to focus specifically on the long-acting reversible methods of contraception available to women currently, including IUDs, implants, injections, and oral pills.

Problem Statement

In an ever changing world, it is important for medical practitioners to stay current with various cultural and religious beliefs so they are able to provide the best care possible for their patients. Not only should practitioners hold true to their faith within life

and practice, they also need to be conscientious about not forcing their own religious views onto patients. Religious differences may influence the way practitioners and patients interact with each other when it comes to a variety of medical issues, especially contraception. It appears that there have been few studies done that aim to discover if current religious beliefs impact medical practitioner's decision whether or not to prescribe contraceptive methods.

Purpose

The purpose of this study is to determine what impact, if any, the religious affiliations and beliefs of medical practitioners have on the prescribing of long-term contraceptive options to patients.

Significance of the Problem

Living in a country comprised of people from diverse cultural and religious backgrounds, it is important for medical practitioners to be aware of and sensitive to the differing perspectives on birth control while providing health care. Practitioners need to be cautious about not imposing their own beliefs and prejudices about contraception onto others, and they need to be aware of the teachings of other religions (Christopher, 2006). Yet, it is still important that practitioners be able to incorporate their own faith and beliefs into their own personal practice. Limited research is available as to what extent practitioners incorporate religion in the prescribing of contraception. The findings of our study will contribute to the awareness of this issue and discover what impact religious values have on the prescribing of contraception.

Research Questions

The following question will be addressed in this study:

What role, if any, do religious beliefs or values have on the prescribing of long-acting, reversible contraceptives by medical practitioners?

Limitations to the Study

A delimitation of this study includes the narrowing of our population to medical practitioners who identify themselves as Catholic, Protestant, Orthodox, and other Christian denominations. We are focusing on Christianity because it is one of the most widely practiced religions across the world, particularly in the United States (Gold et. al. 2010). Also, the different denominations within the Christian faith have some of the strongest opinions in regard to contraception use (Gold et. al. 2010). We chose Catholics, Protestants, and Orthodox Christians because they are the top three denominations who have the most adherents in the United States today (Gold et. al. 2010).

This study includes only analyzing the four most widely-used, reversible, long-acting birth control methods, including IUDs, injectables, implants, and oral pills. (Daniels et. al, 2014). Additionally, they are the most widely debated because they are used by both married and unmarried sexually active women alike, and the methods of each type are ethically argued by adherents of multiple religions in society today.

We have also limited our study to the scope of women's health practitioners. The main purpose behind this is the fact that practitioners in these clinics have weekly interactions with patients in regards to long-term reversible contraception. These practitioners are the ones most often discussing, prescribing, and managing the contraception options for their patients. It is these practitioners who likely have the most experience with conversations in regards to religion and contraception, and therefore, will

likely be able to give us the best insight into whether or not this is actually a pertinent problem in the medical community today.

Definition of Terms

The following definitions provided below should be considered throughout this study.

“Contraception (birth control) prevents pregnancy by interfering with the normal process of ovulation, fertilization, and implantation” (Gale Encyclopedia of Medicine, 2008, Definition section).

Long-acting Reversible Contraception (LARC) is a type of contraception that can be used for an extended period of time without continuous intervention by the woman using said contraception (National Collaborating Centre for Women’s and Children’s Health, 2005).

It is not permanent and can be removed or stopped at any time. The three main types included in this category include intrauterine devices, implants, and injections (National Collaborating Centre for Women’s and Children’s Health, 2005). This study also includes oral contraceptives in this category; although oral contraceptives need to be taken daily by the user, these can be taken for an extended period of time to prevent contraception but can also be stopped at any time. As a result, oral contraceptives are used long-term and are considered reversible (CDC, 2016).

Estrogen is a chemical messenger that is produced in the ovaries, adrenal glands, placenta, and fatty tissues. Even though it has multiple roles in the female body, estrogen is particularly important for reproduction. Estrogen causes the lining of the uterus to thicken in preparation for implantation of a fertilized ovum during the first half of the menstrual cycle. If fertilization does not occur, estrogen levels will drop and menstruation will occur. However, if fertilization does occur, the ovum becomes implanted within the

endometrium, and estrogen and progesterone levels will remain elevated. As a result of implantation, ovulation cannot occur again throughout that pregnancy (Manson, 2015).

Progestogen: “A synthetic derivative from testosterone or progesterone that has some of the physiologic activity and pharmacologic effects of progesterone. Progesterone is antiestrogenic, whereas some progestogens have estrogenic or androgenic properties in addition to progestational activity” (Drugs.com, 2016, para. 2). Progesterone is considered to be the natural form of progestogen (Drugs.com, 2016).

Progesterone is a chemical messenger that is produced in the ovaries, placenta, and adrenal glands. This hormone is necessary for normal menstruation regulation, conception, and pregnancy. In the second half of the menstrual cycle (after ovulation), progesterone levels increase and promote the endometrium of the uterus to prepare for implantation of a fertilized ovum. If an ovum has not been fertilized, progesterone levels will drop and the female body will shed its endometrial lining and thus menstruation will occur. However, if an ovum does become fertilized, the high levels of progesterone will cause the release of specific endometrial proteins that will not only assist in implantation of the fertilized ovum, but also nurture it so that it may develop into a fetus. After implantation, progesterone levels will remain high for the remainder of that pregnancy to maintain ovulation suppression (Goldstein, 2015).

Conclusion

With the high number of women who choose to use birth control and the wide array of religious beliefs practiced in the United States, it is likely that there will be times that the views of a medical practitioner may differ from that of their patients in regard to contraception. This study seeks to find answers to the prevalence of this issue. In the next

chapter, a literature review will describe the most commonly prescribed long-acting, reversible contraception methods, the ethical arguments encompassing contraceptive use, Christian religious teachings on contraception, and previous studies done investigating the relationship between religion and contraception.

Chapter 2: Literature Review

Introduction

This study is focused on determining if the religious views of medical practitioners influence the way he or she prescribes contraception. A massive amount of literature is currently available in regards to the debate on contraception in relation to religion; however, a significant amount of research has not been published relating the debate to medical practitioners and prescriptions. The following is a literature review of contraceptive options and religious beliefs of using contraception. This literature review will include: a background of the most commonly prescribed, reversible, long-acting contraceptive methods used today, the ethical arguments for and against the use of the contraception, differing Christian views on the use of contraceptives, and previous research done relating to the relationship between religion and prescribed contraception.

Contraceptive Options

Several contraceptive options are on the market today aimed at preventing pregnancy (Gale Encyclopedia of Medicine, 2008). This study focuses on four of the main forms of reversible birth control currently being used by women in society today. These types include intrauterine devices (IUDs), oral contraceptives, injectable contraceptives, and implantable contraceptives. All are forms of reversible and long-acting contraception.

Intrauterine devices are a form of long-acting reversible birth control, which are characterized by a T-shaped device that is implanted into a woman's uterus for an extended period of time. According to DynaMed (2016b), two different types of IUDs are available including the Copper IUD and hormonal IUDs. Copper intrauterine devices

work by preventing the fertilization of an egg by utilizing the toxicity of copper on the reproductive cells. Copper acts on the sperm by altering the sperm's ability to move or fertilize the egg, and copper also acts on the ovum by changing the transportation of the egg through the fallopian tubes and uterus (DynaMed, 2016b). Hormonal intrauterine devices work by utilizing the effects of progesterone. The progesterone in hormonal IUDs affects the endometrium by making it inflame and atrophy, as well as making it unresponsive to the effects of estrogen (DynaMed, 2016b). Hormonal IUDs also alter the cervical mucus which prevents the transportation of sperm and decreases the speed of the ovum (DynaMed, 2016b).

Copper intrauterine devices have been approved by the Food and Drug Administration (FDA) and are able to be inserted for around 10 years before needing to be removed. According to DynaMed (2016b), copper intrauterine devices are considered to be one of the most effective forms of emergency contraception if inserted less than 120 hours after intercourse. Approximately 1.9% of women reported an unwanted pregnancy over a 10-year period while using the copper IUD (DynaMed, 2016b). Some side effects of the copper IUD that are most commonly reported include increased bleeding or pain with menstruation (DynaMed, 2016b).

Two types of hormonal intrauterine devices are currently available for use. Mirena, or levonorgestrel-releasing intrauterine system, was approved by the FDA in 2000 for up to five years of continuous use. This device releases 14-20 mcg of levonorgestrel into the uterus each day while inserted (DynaMed, 2016b). Unintended pregnancy has been reported by approximately 0.3% of women per year while using the device. Mirena has also had some noncontraceptive indications for users, including the

following: reduction of heavy menstrual bleeding, menopausal hormone replacement therapy, and benefits for users with simple endometrial hyperplasia (DynaMed, 2016b). The other hormonal intrauterine device currently being used is called Skyla, or low dose levonorgestrel-releasing intrauterine system (LNG-IUS). This device was approved in 2013 by the FDA and is inserted for up to three years in users. Like Mirena, this device releases levonorgestrel daily while inserted into the uterus, however it releases a smaller amount and is inserted for a shorter time period. Side effects and benefits are similar to those of Mirena. Around 0.4% of women reported an unintended pregnancy after one year of use with this device (DynaMed, 2016b).

Another type of long-acting, reversible contraception currently available are injectable contraceptives. Three progesterone-only injectable contraception options are currently available to women in today's society: Depo-Provera, Depo-subQ Provera, and Noristerat (DynaMed, 2016d). Injectable contraceptives are available in both intramuscular and subcutaneous options. The most important mechanism of action for this form of contraception is through the "inhibition of gonadotropin secretion and subsequent follicular development and ovulation" (DynaMed, 2016d, Progestogen-only Injectable Contraceptives section). Additionally, injectable contraception works by decreasing sperm transportation through increased thickness of cervical mucus, as well as decreasing the chance of implantation through endometrial atrophy (DynaMed, 2016d).

According to DynaMed (2016d), depot medroxyprogesterone acetate, or Depo-Provera, is a progesterone-only intramuscular injection given to patients by a certified healthcare practitioner every three months. The dosing is 150 mg/mL; concentration of progestogen has been found to increase significantly in the initial two days after

administration and slowly decreases over the next 12 weeks (DynaMed, 2016d). Depot medroxyprogesterone acetate subcutaneous, or Depo-subQ Provera, is similar to Depo-Provera except the placement of injection and concentration of progestogen in the shot is different (DynaMed, 2016d). Depo-subQ Provera is also administered every three months; however, it can be given by a practitioner or the patient can self-administer the medication (DynaMed, 2016d). Another difference between these two injectables is that the Depo-subQ Provera has 30% less progestogen and is said to cause less pain upon injection compared to the intramuscular version (DynaMed, 2016d). These injectables are claimed to be better at preventing pregnancy than oral contraceptives but are still inferior to IUDs. Unwanted pregnancy has been reported in approximately 6% of patients (DynaMed, 2016d). Additional side effects that have been reported with these two medications include abnormal bleeding, weight gain, and bone mineral density decreases. Several benefits have been reported, which are unrelated to contraception, including decreased bleeding and decreased pain with menstruation. These injectable contraceptives also serve as a good option for women with disabilities or those in the military (DynaMed, 2016d).

The other option for injectable contraception is Noristerat, or Norethisterone enanthate. According to DynaMed (2016d), this long-term, reversible, progesterone-only form of contraception is given via intramuscular injection every 8 weeks. The mechanism of action of this medication is the same as the other two injectable contraception options currently on the market. This option is most often recommended for women who have sexual partners with recent vasectomies, or women who have recently received a rubella immunization (DynaMed, 2016d). Unwanted pregnancy was reported with exact use in

0.4% of cases. Side effects and non-contraceptive benefits are similar to those of the depot medroxyprogesterone medications (DynaMed, 2016d).

Implantable contraception is another invasive option currently available for women of childbearing age throughout the world. According to DynaMed (2016c), the two implantable options include Implanon and Nexplanon, both of which are characterized as estronogesterel-releasing implants. The primary mechanism of action with these options is through the “prevention of ovulation by suppression of hypothalamic-pituitary-ovarian axis” via the gradual release of progestin (DynaMed, 2016c, Etonogestrel-releasing Implant section). Implantable contraceptives also work by decreasing the transportation of sperm by increasing the density of cervical mucus, as well as decreasing the likelihood of implantation by influencing the thickness of the endometrium (DynaMed, 2016c).

Both estronogesterel-releasing implants are classified as reversible, long-acting forms of contraception. According to DynaMed (2016c), both Nexplanon and Implanon are progestin-only subdermal options that are approved by the FDA for up to three years of continuous use. The only difference between the two implants is that Nexplanon has a redesigned inserter. Another aspect differentiating this form of contraception from many of the other forms currently on the market is that practitioners are required by the FDA to go through specific training to learn the appropriate methods of inserting the device (DynaMed, 2016c).

According to DynaMed (2016c), implantable contraception is reported to be the most reliable form of long-acting reversible contraception currently available. Unwanted pregnancy was reported in only 0.05% of women within one year of having the device

implanted, and less than 0.001% of women reported an unwanted pregnancy in the full term (3 years) of use (DynaMed, 2016c). Despite their reliability, there are multiple ways in which these devices can fail including inappropriate timing of the device insertion, noninsertion that is not recognized by the patient or practitioner, and various negative drug interactions. The main non-contraceptive benefit reported was the decrease in severe pelvic pain (DynaMed, 2016c). Non-beneficial side effects of the implants have been specifically related to the hormone released, including: bleeding irregularities, headaches, weight fluctuation, skin changes, breast pain, nausea, decreased sexual drive, and changes in mood (DynaMed, 2016c). Implantable contraception has not been shown to increase the risk of pulmonary embolism, deep vein thrombosis, or osteoporosis (DynaMed, 2016c).

Oral contraceptives are the final form of reversible contraception discussed in this study. This method is arguably the most widely used type of all birth control currently available. Oral contraceptives can be divided into two categories: combined hormonal contraception and progesterone only contraception. According to DynaMed (2016a), combined hormonal oral contraception contains both progestogen and estrogen and are available in a pill form for women to take daily. The mechanism of action for these pills is mediated through the decrease in follicle-stimulating hormone and luteinizing hormone levels. Ovulation is inhibited as a result of these specific options (DynaMed, 2016a). In addition, estrogen and progestogen change the endometrial surface and density of cervical mucus as means of inhibiting implantation (DynaMed, 2016a). A standard combined oral contraception pack comes with 28 pills, 21 of which actually contain hormones and 7 that are classified as placebo or sugar pills (DynaMed, 2016a). The first

week of pills work by preventing ovulation; the second and third weeks of pills continue to interfere with ovulation (DynaMed, 2016a). The final week of the cycle is most often characterized by normal menstrual bleeding as a result of the lack of hormones contained in the placebo pills (DynaMed, 2016a).

According to DynaMed (2016a), the efficacy of combined hormonal oral contraception is completely dependent on the individual's use; unlike the other methods discussed, compliance with this medication varies widely from person to person. Oral contraceptives are the only form of birth control discussed that are required to be physically ingested each day by the woman; as a result, use of this form of contraception is widely imperfect with higher rates of failure to prevent pregnancy. Pregnancy rates were reported in 0.3% of patients with consistent, meticulous use, whereas 9% of women reported unwanted pregnancy in the first year of using combined oral contraception with inconsistent/typical use (DynaMed, 2016a). Combined hormonal oral contraception is contraindicated for several populations, including women who are obese, women with a history of breast cancer, severe migraines, a hereditary coagulation abnormality, pulmonary embolism, or deep vein thrombosis (DynaMed, 2016a). Additionally, several negative side effects have been reported with combined oral contraceptives, including increased bleeding, breast pain, nausea, worsening acne, and mood swings (DynaMed, 2016a). More significant side effects reported include greater chance of ischemic stroke or venous thromboembolism (DynaMed, 2016a). Several benefits have been reported unrelated to contraception, which include acne clearance, improvement of menstrual cramps, suppression of menstrual bleeding, and improvements in symptoms of polycystic ovarian syndrome (DynaMed, 2016a).

The second type of oral contraception currently available is a category of progestogen-only pills. These pills contain no estrogen and are considered to be the “mini-pill” compared to their combined hormone counterpart (DynaMed, 2016a). According to DynaMed (2016a), progestogen-only pills are the most widely used form of oral contraception currently available to women in society today. The primary mechanism of how progestogen-only pills prevent pregnancy is through the decreased transportation of sperm by changing the consistency of cervical mucus, as well as decreasing the chances of implantation through effects on the endometrium (DynaMed, 2016a).

The reason why progestogen-only contraception has become so widespread is due to the well-documented decrease in overall contraindications when compared to combined-oral contraception. According to DynaMed (2016a), progestogen-only contraception is considered ideal for women who choose oral contraception but have health issues, which were previously stated as contraindications for the combined-oral contraceptive pills. Progestogen-only oral contraceptives are also considered the gold standard for postpartum women (DynaMed, 2016a). Progestogen-only pills are taken daily, similar to combined oral contraceptive pills; as a result, the percentage of unwanted pregnancy reported is exactly the same among users of both types of oral contraceptives (DynaMed, 2016a). The most commonly reported side effects include changes in menstrual bleeding and mood swings, which appear to be unrelated to depression (DynaMed, 2016a).

Ethical Arguments For and Against Contraception

The use of contraception in the prevention of pregnancy has been one of the most highly debated topics throughout women's health history. Within that debate, ethical arguments are often made to support and refute the idea of contraception. Though the topic is still widely split, an aim of this study is to analyze the ethical arguments made by both sides regarding the recommendation or discouragement of the use of contraception. Despite our best efforts at searching the literature, however, there are few sources available that specifically address the ethical arguments of birth control use or avoidance.

One of the strongest arguments made by those individuals, both secular and religious, who support the use of contraception is that it supports the human right of the woman by allowing the willful choice of whether or not to have children. This choice of when to bear children ultimately supports the concept that women have the ability to control their own lives (BBC News, 2014a). An additional argument made by supporters of birth control is that sexual intimacy has multiple purposes within a marriage. The defense is made that sex is not only a means of procreation, but it is an expression of love as well. Sexual intimacy is used as a means of signifying and celebrating the union between husband and wife (Hollinger, 2013). For this reason, those in favor of contraception contend that it improves marriages by allowing couples to spend more time with each other, and subsequently increasing physical intimacy by eliminating the fear of unintentionally conceiving (BBC News, 2014a). Supporters of contraception additionally believe the use of birth control has many personal health and familial benefits. Individuals largely agreed that the prevention of unwanted pregnancies in turn prevents couples from having children they are unable to support; therefore, the use of birth

control is actually argued to be a financially responsible choice for many couples (BBC News, 2014a). Contraception also enables a woman to remain sexually active with her partner despite having predisposed medical conditions that would put her health in danger if she were to become pregnant (BBC News, 2014a). An argument has been made stating that contraception use has “demographical benefits” in that if unwanted pregnancies are prevented, there is more population control, which inadvertently leads to a decline in poverty numbers (BBC News, 2014a). All of these are ethical arguments made by those individuals who are in favor of the use of contraception (BBC News, 2014a).

On the contrary, those individuals who are against the use of contraceptive methods have several arguments as to why they believe birth control is ethically debatable. One of the biggest arguments by secular and religious individuals is that of “the nature of sex argument” (Hollinger, 2013, p. 687). This opposing view emphasizes procreation as the most important purpose of sexual intimacy; therefore, partaking in such activities without procreation as the end result is a way “to satiate lust” (Hollinger, 2013). More specifically, those who oppose birth control argue that the use of contraception makes partaking in sexual activities outside of marriage easier and more tempting because unwanted pregnancy is no longer a consequence of sexual intimacy. This activity ultimately leads to a separation between sexual intimacy and procreation (BBC News, 2014b). Individuals in opposition of birth control additionally argue that the use of contraception has several negative consequences relating to health and humanity (BBC News, 2014b). Many contraceptive methods have undesirable side effects when used, which were previously discussed in the last section of this chapter, and may therefore negatively influence a woman’s health with use (BBC News, 2014b). Another

negative consequence of contraception is that it prevents the formation of life of a person who is a member of the human family. The final argument proposed by individuals against birth control is that contraception use may be abused in the future in regards to population control, which would ultimately lead to depopulation (BBC News, 2014b).

Christian Religious Teachings on Contraception

Writings or interpretations of scripture on this subject date back to hundreds of years ago and are still much debated in modern times (Tyndale House Publishers (THP), 2004). Two specific passages that are often referenced as an opposition to birth control in the Bible include the following: the first is in Genesis 1:28 which says “Then God blessed them and said ‘be fruitful and multiply. Fill the earth and govern it. Reign over the fish in the sea, the birds in the sky, and all the animals that scurry along the ground’” (THP, 2004, p. 3). This passage provides the basis of one of the earliest known arguments supporting the fact that God encourages procreation. The second passage often referenced is Genesis 38: 9-10, which says:

...Onan was not willing to have a child who would not be his own heir. So whenever he had intercourse with his brother’s wife, he spilled the semen on the ground. This prevented her from having a child who would belong to his brother. But the Lord considered it evil for Onan to deny a child to his dead brother. So the Lord took Onan’s life, too (THP, 2004, p 32).

In this passage, some theologians would argue that God regards sexual intimacy without the intent of procreation as intrinsically wrong (Christopher, 2006).

Three of the most widely practiced denominations of Christianity within our world today include Catholicism, Protestantism, and Orthodoxy (Religion Facts, 2015).

This study will focus on the religious views of contraception of these three Christian denominations. Conflicting views on this topic between different Christian denominations have not always been as strong. According to a recent journal published by Girgis (2016), the authors suggested that all Christian denominations seemed to share the same views in regards to the immoral nature of contraception, that any sexual act by husband and wife that was not focused on procreation was morally wrong (Girgis, 2016). The Catholic Church generally continues to uphold these teachings as practiced for the approximately last 2000 years; however, many Protestants have started to break away of this teaching, and many other denominations have been quick to follow (Girgis, 2016).

The Roman Catholic Church bans the use of artificial birth control methods to prevent pregnancy. According to Christopher (2006), those who practice Catholicism firmly believe that procreation is the intent of sexual relations within a marriage. Catholics additionally teach that anyone who deliberately chooses to interfere with this process is sinful as a result (Christopher, 2006). However, many Catholics believe that if a family is not ready or does not want to have children, the use of natural family planning and abstinence are the only two acceptable forms of birth control within the Catholic Church (Christopher, 2006).

Protestants generally agree that the use of birth control methods within a marriage are to be a mutual decision between partners. In his review, Christopher noted that those who practice Protestantism appear to believe that a couple has the right to decide if and when they wish to procreate (Christopher, 2006). Additionally, the decision to conceive for a couple is often influenced by multiple factors including but not limited to: timing,

finances, the number of children they wish to have, the needs of the children they already have, and health within the family (Christopher, 2006).

According to an article written by Hopko (2016), those who practice the Orthodox faith in America believe that sexual relations within a marriage are not only a means of procreation, but also an expression of love. Therefore, a couple has the right to decide for themselves whether or not to use birth control methods to prevent conception (Christopher, 2006). The Orthodox faith teaches that if the life of a child will bring more harm to the relationship than joy, then the means by which the couple chooses to prevent that hardship is insignificant (Hopko, 2016).

Studies Investigating Religion and Contraception

Four studies were analyzed in regards to contraception, religion, and clinical practice. Overall, these studies showed that medical practitioners who prescribe contraception in society have a moral opposition to various medical practices including contraception, as well as practitioners that believe they have the right to voice moral opposition to requests to patients (Curlin, et al, 2007). Several studies also supported the view that contraception is widely used by couples in society despite the strength of religious beliefs or influence of cultural factors (Srikanthan & Reid, 2008).

A study published in the New England Journal of Medicine by Curlin et al. (2007) sought to look at the patient-practitioner relationship in regards to personal and religious differences. In 2003, Curlin and colleagues sent out a paper 12-page survey to 2000 random physicians of all specialty types in the United States. After receiving the answered questionnaires, the three main questions that researchers analyzed included the following:

1. If a patient requests a legal medical procedure, but the patient's physician objects to the procedure for religious or moral reasons, would it be ethical for the physician to plainly describe to the patient why he or she objects to the requested procedure?
2. Does the physician have an obligation to present all possible options to the patient, including information about obtaining the requested procedure?
3. Does the physician have an obligation to refer the patient to someone who does not object to the requested procedure? (Curlin, et al, 2007, para. 5).

Strength of religious beliefs and what religion each physician affiliated with was also examined in the questionnaire. The survey additionally asked respondents to give their opinions or moral objections to controversial situations in medicine including physician-assisted suicide, abortions, and contraception prescriptions for teenagers (Curlin, et al., 2007). The researchers had a response rate of approximately 63%. Of the physicians who responded to the survey, 63% believed the practitioner is correct in voicing objections of moral nature to the patient, 86% responded that the practitioner should then be able to advise the patient of all options regarding the proposed issue, and 71% believed that the practitioner should, as a result of opposition, refer the patient to another practitioner who does not have contradicting views towards the request (Curlin, et al., 2007). It was also discovered that those practitioners who affiliated with either Catholicism or Protestantism were more inclined to say that a physician has the right to voice moral oppositions to a request; however, these physicians were also less likely to say that referring a patient to another practitioner without conflicts is appropriate. One of the limitations discussed within this study was the fact that the 2000 surveys sent out included physicians of all

specialties. As a result, physicians of various specialties which have little experience with the controversial topics proposed in the questionnaire were still required to respond (Curlin, et al., 2007). As a result, they admitted that some of the results may have been skewed due to the lack of experience with morally complex patient-practitioner interactions. Another stated limitation was that researchers had no way of knowing if the respondents answers to the questionnaire actually apply to their daily clinical practice. Researchers, as a result, proposed that their research should be considered preliminary, and that any studies done on this topic in the future should attempt to include more patient reports or direct observation of patient-practitioner interactions (Curlin, et al., 2007).

Srikanthan and Reid conducted a study in 2008 that analyzed the relationship between religion or culture on the use or acceptance of different methods of contraception. The method of this study utilized a literature review and consultation of experts in various religious fields, including those of Buddhism, Hinduism, Judaism, Islam, Christianity, and Chinese religions (Srikanthan & Reid, 2008). When specifically analyzing this study in regards to Christian teachings and the acceptance of contraception by Christians, researchers analyzed several denominations of Christianity including Roman Catholicism, Eastern Orthodoxy, and Protestantism (Srikanthan & Reid, 2008). In relation to cultural trends, researchers discovered that religion did not play a primary role in the patient's decision to approve or disapprove of contraception use within Christian households in the United States (Srikanthan & Reid, 2008). Conversely, cultural and socioeconomic aspects including education had more of an impact on contraception use and family size compared to religious beliefs (Srikanthan & Reid, 2008). Some of these

cultural and socioeconomic aspects included communication between couples, differing gender roles, views on family size, access to healthcare and therefore contraception, or various other restrictions relating to culture (Srikanthan & Reid, 2008). Despite these results, researchers emphasized that the conclusions made during the study are quite generalized and may not be applicable to every care. As a result, researchers recommended that practitioners should be aware that each situation and each patient may present differently than what was discovered in this study (Srikanthan & Reid, 2008).

In a later study done by Gold et. al. (2010), researchers sought to find a relationship between female adolescents' religious beliefs, sexual behaviors, and contraceptive use. 572 women participated in a randomized controlled trial that was then analyzed by researchers in a secondary analysis (Gold, et al, 2010). The women, ages 13-21, were included in a trial that looked at different interventions intended on preventing unwanted pregnancy and sexually transmitted infections (Gold, et al, 2010). Of the 572 women studied, approximately 75% confirmed belief in some religion, and around 68% confirmed to have been previously sexually active at least one time (Gold, et al, 2010). Only half of the adolescents studied noted that their religious beliefs influenced their decisions to have sexual relations (Gold, et al, 2010). Researchers discovered in this analysis that women who reported strong religious beliefs or affiliations had a lower likelihood of pregnancy, multiple sexual partners, or a history of sexually transmitted disease compared to those with little to no religious affiliation (Gold, et al, 2010). Interestingly, however, a significant correlation was not found between strength of religious beliefs and contraception use or frequency of sexual relations (Gold, et al, 2010).

A study performed by Lawrence, Rasinski, Yoon, and Curlin in 2011 was designed to “characterize beliefs about contraception among obstetrician-gynecologists” (Lawrence, Rasinski, Yoon, & Curlin, 2011, para. 1). This study investigated the beliefs of 1,154 obstetrician-gynecologists to see which contraceptive methods, if any, they were opposed to prescribing. To obtain their data, researchers developed a confidential self-administered yes-no questionnaire that assessed whether or not each of the participating physicians had a moral or ethical opposition to prescribing oral contraceptives, progesterone implants and/or injections, IUDs, diaphragms/cervical cap with spermicide, condoms, or tubal ligations (Lawrence, et. al., 2011). The survey also asked whether or not these practitioners would prescribe any of the above stated methods at the request of the patient (Lawrence, et. al., 2011). Researchers additionally assessed the importance of religion in the lives of the physicians participating by having them rate religion as being either not very important/fairly important, or very important/most important (Lawrence, et. al., 2011). Using statistical analysis, the researchers found that “overall, 4.9% of US Ob/Gyn physicians have a moral or ethical objection to a contraceptive method, and 6.8% would not offer one or more contraceptives if patients requested it” (Lawrence, et. al., 2011, para. 14).

Summary of Literature Review

Evidence would seem to indicate that there is a disconnect between the teachings of various Christian denominations in regards to contraception and the use or approval of contraception by women in society today. There is additional evidence that suggests that some medical practitioners do indeed have moral oppositions to the prescription or use of contraception (Curlin, et al., 2007). Many medical practitioners believe that it is

acceptable to voice opinions and conflicts of interest to patients in regards to this topic (Curlin, et al., 2007). Other practitioners have moral objections to prescribing contraceptives, and some even refuse to prescribe various contraceptive options based on their beliefs (Lawrence, et. al., 2011). However, the question can still be raised whether or not practitioners of certain religious backgrounds do indeed allow their moral beliefs to influence their prescribing of various forms of contraception to patients. In the next chapter, the methodology of the study will be discussed.

Chapter 3: Methodology

Introduction

The purpose of this study was to determine what impact, if any, the religious affiliations and beliefs of medical practitioners have on the prescribing of long-term, reversible contraceptive options to patients. Furthermore, this study analyzed which religion each practitioner identifies with and any objections to the prescribing of various forms of long-term, reversible contraceptive methods (intrauterine devices, oral contraceptive pills, injectables, and implantables). The design of this study, study population, experimental procedures, study tools, statistical methods, and potential limitations are all included in this chapter.

Study Design

This study was a descriptive, cross-sectional, quantitative pilot study targeting Ob/GYN physician assistants who have memberships with the Association of Physician Assistants in Obstetrics and Gynecology (APAOG). The study was looking to determine a relationship between religious affiliations and long-term, reversible contraception prescribing habits. Information regarding demographics, religious views and affiliations, and contraceptive prescribing methods of the study population were collected through a Qualtrics survey. The survey was accessed via a hyperlink received through e-mail to the members of the APAOG. Confidentiality in practitioner response was ensured through the use of a web-based program and no personal information was collected from participants. The use of e-mail was thought to potentially increase the response rate of participants. The dependent variable was: Physician assistant's prescribing habits of long-

acting, reversible contraception, and the independent variable was: Religious views (Catholic, Orthodox, Protestant, Other).

Study Population

The organization whose members were surveyed was the Association of Physician Assistants in Obstetrics and Gynecology (Appendix A). This study includes both male and female PAs who are currently practicing or have practiced in obstetrics and gynecology within the last 10 years. This was the designated population because it is thought that practitioners who work in Ob/GYN specialties have the most contact with patients using or inquiring about contraception. This study included all religious affiliations and any Christian religion other than Catholic, Orthodox, or Protestant will be grouped together as other. Participants who practice faith within a religion that is not considered Christian were excluded from the study analysis and results.

Experimental Procedures

In the summer of 2017, an email was sent to the work email addresses of Ob/GYN physician assistants who have memberships with the APAOG. The researchers were required to become student members at APAOG, which warranted a \$25 one-time student fee. The email contained a cover letter with a statement of informed consent that illustrated the purpose of the study and a hyperlink that allowed each participant to access the survey (Appendix B and C). The email indicated that by clicking on the hyperlink and proceeding to the survey, the practitioner was giving informed consent to participate in the study. A reminder email was sent at 2 and 4 weeks following the initial email in hopes of increasing the response rate (Appendix D). After six weeks, the researchers no longer accepted responses from participants. No personal data was collected from

participants to ensure confidentiality. Due to the sensitive nature of the survey in regards to religion, participants were informed multiple times that they were able to stop the survey at any time without any repercussions from APAOG or Bethel University. All electronic data, while being collected and analyzed, was kept on a password-protected computer owned by the researchers. After completion of the study, the data will be kept on an external storage device locked in the PA program office for a minimum of five years, per securing requirements for Bethel University's Physician Assistant Program.

Study Tools

The researchers created a survey including demographic questions, religious background questions, questions regarding prescribing habits of practitioners, and questions addressing religious influence on patient-practitioner interactions relating to contraception. The validity and reliability of the survey designed for this study was not established because the survey instrument was developed by the researchers for this particular study and had not been used previously. Researchers utilized an expert panel consisting of Bethel PA Program faculty members prior to the distribution of the survey to ensure the survey questions were easy to understand and were relevant the research questions.

Statistical Methods

An initial sample size of 30 participants was anticipated. Data was collected from the online survey program Qualtrics, and underwent analysis. Each response was adjusted and analyzed numerically using an adjusted Likert scale. Excel and Real Statistics were used to create several Chi-Squared and Fischer tests to compare the provider's religious

views and their beliefs related to prescribing each of the contraceptive methods listed.

The responses of each participant were scored to determine the statistical analysis.

Limitations and Delimitations

A delimitation of this study includes the narrowing of the population to medical practitioners who are Christians and practice Catholicism, Protestantism, Orthodoxy, and other Christian denominations. This study only analyzes the four most widely-used, reversible, long-acting birth control methods, including IUDs, injectables, implants, and oral pills. Furthermore, this study is limited to the scope of women's health practitioners. The main purpose behind these delimitations is due to the fact that practitioners in these clinics have weekly interactions with patients in regards to long-term reversible contraception. These practitioners are the ones most often prescribing and managing the contraception options for their patients. It is these practitioners who likely have the most experience with conversations in regards to religion and contraception, and therefore, they will likely be able to give us the best insight on the relationship of prescribing contraceptives and religious beliefs. Regarding possible biases, it is recognized that the survey questions may potentially contain researcher bias in the wording. The use of an expert panel review of the survey instrument hoped to eliminate this bias.

Conclusion

study methods involved sending out an electronic survey to members of the APOG as means of discovering a relationship between religious affiliations and long-acting, reversible contraception prescribing habits of practitioners. Chapter 4 analyzes the results of the survey responses using statistical analysis, and Chapter 5 contains a discussion of the conclusions obtained from the survey results.

Chapter 4: Results

Introduction

Chapter Four presents the findings of the study through data analysis. Population demographics were analyzed and are discussed first. Data was then organized according to religious affiliation, importance of religion in everyday life and medical practice, and influence of religion on contraception within the medical practice. The relationship between these variables was analyzed in attempt to answer the research question. Descriptive statistics were used to compare these variables and the results of this analysis are discussed in this chapter. The remainder of questions asked in the survey were not analyzed statistically due to the fact that they were not pertinent to the main research question.

Calculations

Excel statistics with Real Statistics add-on was utilized to analyze the data. For analysis purposes, an adjusted Likert scale was used to convert categorical data to numerical data in order from one to five. This was utilized for several demographic comparisons. In addition, the four questions that were analyzed to answer the research question were not adjusted based on the Likert scale, but instead, were analyzed as is. For analysis purposes in this study, statistical significance was defined as $p \leq 0.05$.

Due to the fact that we were comparing "categorical" data to "categorical" data, we initially did a Chi-Squared test for independence for each of the questions. Four pivot tables were created to compare the survey questions of significance to one another, including the participants chosen religion, the importance of religion in their medical practice, the influence of religion on discussions with patients on contraception, and the

influence of religion on the prescribing of contraception. Typically, at least five (5) values are necessary to utilize a Chi-Squared test for comparison; therefore, we elected to complete a Fischer Exact Test for several of the comparisons.

<i>Likert Scale</i>				
1	2	3	4	5
Not at all important	Slightly important	Moderately important	Very important	Extremely important
Not at all	A little	A moderate amount	A lot	A great deal

Table 1: Adjusted Likert Scale

Survey Population

The population for this survey consisted of physician assistants who are currently practicing or who have practiced in the fields of family practice or Ob/GYN within the last 10 years. Participants were surveyed through the Association of Physician Assistants in Obstetrics and Gynecology (APAOG) newsletter. The survey was sent out in the July APAOG newsletter, again two weeks later in a separate email blast, and a final time in the August 2017 newsletter. Twenty-four physician assistants responded to the survey. However, only 17 participants completed all 16 questions and therefore seven (7) surveys were completely removed from analysis. Some participants failed to continue the survey after being asked about their preferred religion, others failed to answer all of the questions on the importance of religion in their life and medical practice.

Population Description: Demographics

100% of respondents were female. The age range of participants was widely varied, with 29.4% ages 30-39 and 23.5% at 40-49. The length of practicing in OB/GYN specialties was also varied, with 35.3% having practiced for 0-3 years, 23.5% for 4-6 years, and 23.5% for 15+ years. The majority of respondents see, on average, 13-16

patients per day (47.06%), with 35.3% discussing contraception with 4-7 patients per day and 41.2% discussing contraception with 11-14 patients per day. Twelve (12) participants responded that 25-75% of their patients are on some form of long-acting reversible birth control. The majority of participants responded that most of their patients are currently on oral contraception (70.6%), with intrauterine devices as the second most commonly used form at 29.4%.

	Number of Participants	Survey %
Gender		
Female	17	100%
Male	0	0%
Age		
20-29	3	17.7%
30-39	5	29.4%
40-49	4	23.4%
50-59	3	17.7%
60+	2	11.8%
Years in Practice		
0-3 years	6	35.3%
4-6 years	4	23.5%
7-10 years	2	11.8%
11-14 years	1	5.9%
15+ years	4	23.5%
Average patients seen/day		
5-8	1	5.9%
9-12	3	17.7%
13-16	8	47.0%
17-20	5	29.4%

21+	0	0%
Number of patients/day with whom contraception is discussed		
0-3	3	17.6%
4-7	6	35.3%
11-14	7	41.2%
15-18	1	5.9%
19+	0	0.00%
% of Patients on Contraception		
0-25%	2	11.8%
26-50%	6	35.3%
51-75%	6	35.3%
76-100%	3	17.6%
Most common type of contraception patients are on		
Oral contraceptive pills	12	70.6%
IUDS	5	29.4%
Injectable contraceptives	0	0%
Implantable contraceptives	0	0%

Table 2: Demographic information of participants

Population Description: Religion

Participant answers based on religion were widely varied. Of the 17 participants who answered all survey questions, the majority identified as Protestant (41.2%). Other religions included 5.9% Catholic, 17.7% Other Christian, and 35.3% Other. When questioned about the importance of religion in everyday life, the majority of participants responded with “extremely important” (35.3%) (Figure 1). Only 1 participant responded that religion was not at all important, and all other responses included the following: 17.7%-very important, 23.5%- moderately, 17.7% -slightly. In contrast, when questioned

about the importance of religion in their medical practice, the majority of participants responded with “not at all important” (35.3%) (Figure 2). Other responses included the following: 11.76%- “A great deal”, 11.76%- “A lot”, 25.53%- “A moderate amount”, 17.65%- “A little”. Only two participants responded that their religious views influence their conversations with patients about contraception, and only one participant responded that their religious views influenced their prescribing of contraception.

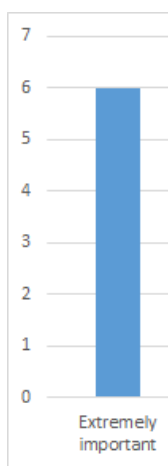


Figure 1- Importance of religion in everyday life of participants. Y-axis values represent the number of physician assistants

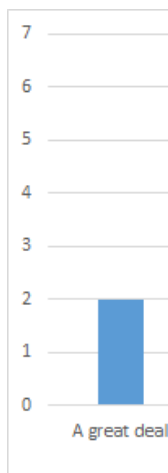


Figure 2- Importance of religion in everyday medical practice of participants. Y-axis values represent the number of physician assistants

Correlations Based on Religion

A Chi-Squared test using the RealStatistics add-in on Microsoft Excel compared individual religion and influence of religion on discussions regarding contraception (Figure 3). Individual religion was the independent variable and influence of religion on conversations regarding contraception was the dependent variable. No significance was found with a $p = 0.69$.



Figure 3- Mosaic plot of the Chi-Squared analysis made comparing the religion of participants to their response when asked if religion influences the conversations they are having with patients regarding contraception.

A Chi-Squared test using the RealStatistics add-in on Microsoft Excel compared individual religion and influence of religion on prescribing of contraception (Figure 4). Individual religion was the independent variable and influence of religion on prescribing of contraception was the dependent variable. No significance was found with a $p = 0.24$.

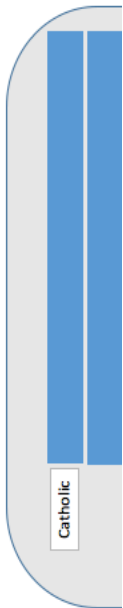


Figure 4: Mosaic plot of the Chi-Squared analysis made comparing the religion of participants to their response when asked if religion influences the prescribing of contraception to patients.

A Fischer exact test using the RealStatistics add-in on Microsoft Excel compared importance of religion on medical practice and influence of religion on discussions regarding contraception (Figure 5). Importance of religion on medical practice was the independent variable and influence of religion on conversations regarding contraception was the dependent variable. Statistical significance was found with a $p = 0.00$.



Figure 5: Mosaic plot of the Fischer Exact test made comparing the importance of religion in everyday medical practice of participants to their response when asked if religion influences the conversations they are having with patients regarding contraception

A Fischer exact test using the RealStatistics add-in on Microsoft Excel compared importance of religion on medical practice and influence of religion on prescribing of contraception (Figure 6). Importance of religion on medical practice was the independent variable and influence of religion on prescribing of contraception was the dependent variable. No significance was found with a $p = 0.09$.

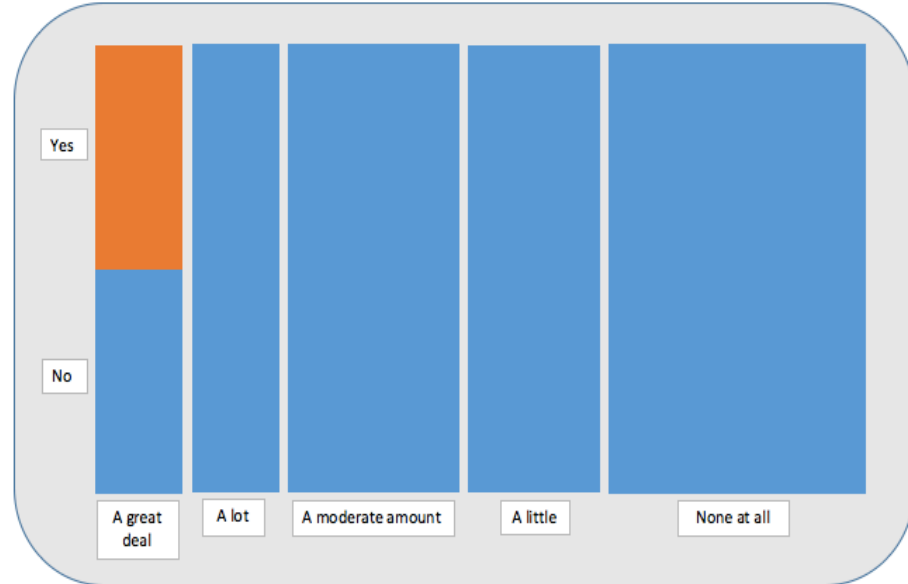
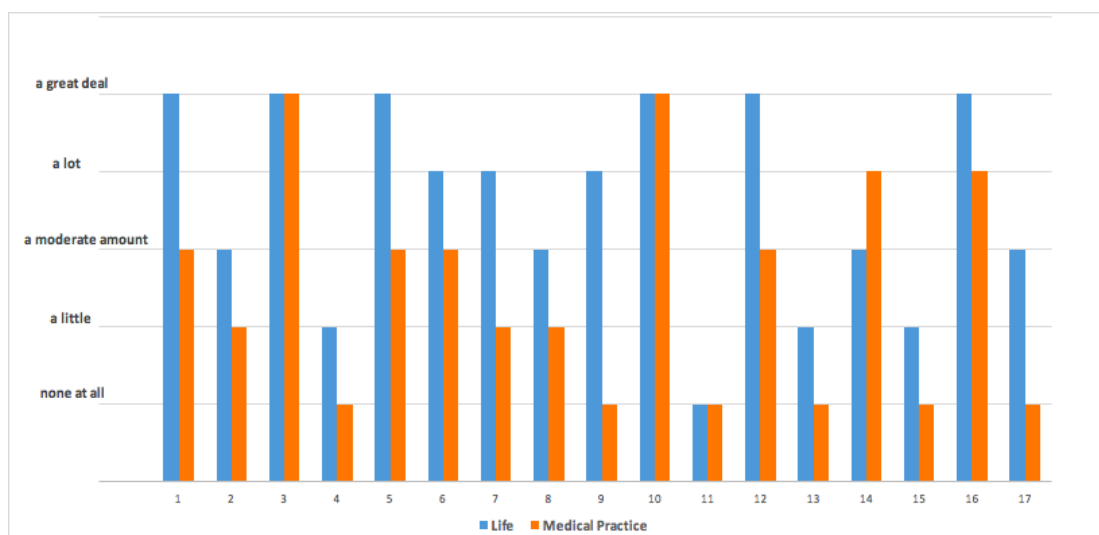


Figure 6: Mosaic plot of the Fischer Exact test done comparing the importance of religion in everyday medical practice of participants to their response when asked if religion influences the conversations they are having with patients regarding contraception.

Additional Analysis

In an additional comparison, it was discovered that 13/17 participants responded that their religious views play a more significant role in their everyday life compared to their everyday medical practice (Figure 7). Only one (1) participant responded that religion was more important in their medical practice compared to their life, and two (2) participants responded that religion plays equal importance in their everyday life and medical practice.

Figure 7: Comparison of participant's responses of the importance of religion in their life compared to their everyday medical practice.



Summary

This chapter discussed the results of data analysis. Descriptive statistics were used to analyze the population. These revealed some variability across each demographic, where despite 100% of participants being female, there was age variation and practice length variation. Correlation studies using Chi-Squared tests and Fischer Exact tests were performed to determine whether relationships existed between specific religion and contraception prescribing, as well as importance of religion in medical practice and

contraception prescribing. These studies all revealed high P-values except in the case of comparing the importance of religion in everyday medical practice and influence of religion on conversations with patients in regards to contraception, in which a P-value of 0.00 was achieved. Due to the small sample size, this study was considered to be a pilot study. Chapter 5 includes the interpretation of results found in Chapter 4 in addition to conclusions and discussions based on said results.

Chapter 5: Discussion and Conclusions

Introduction

For centuries, the use of artificial contraception has been a highly debated topic across different religions. This debate continues to remain strong even today. Living in a country made up of diverse cultural backgrounds and beliefs, religious differences may influence the way contraception is prescribed. It has been discovered that women all over the world use contraception on a regular basis despite their religious affiliations (Daniels, Daughtry, & Jones, 2014). In addition, researchers have discovered that religion does not seem to play a primary role in a patient's decision to approve or disapprove of contraception use within Christian households in the United States (Srikanthan & Reid, 2008). Noting these facts, there is a lack of research regarding a significant correlation between religious views and importance of religion to practitioners and their tendencies in regards to contraceptives.

Researchers in this study sought to discover what type of relationship exists between religion and contraceptive prescribing habits of medical practitioners in our

world today. Chapter 5 discusses the lack of correlation found between religious views and objections to contraception in this particular study. In addition, recommendations for further research, as well as the limitations that were encountered during this study will also be addressed in hopes to shed light on potential explanation as to the lack of statistical significance found with regards to the research question.

Correlation of Religious Views and Objections to Contraception

The purpose of this study was to answer the question of what role, if any, do religious beliefs or values have on the prescribing of long-acting, reversible contraceptives by medical practitioners. A majority of the 17 survey participants responded that their religious beliefs do not play a role in their current conversations with patients regarding contraception, or prescribing of contraception to patients in their current practice. However, when analyzing the results of this study through Chi-Squared testing, there was a statistical significance found when comparing the importance of religion on medical practice and the influence of religion on discussions regarding contraception ($p = 0.00$). All other comparisons made in an attempt to answer the research question showed no statistical significance through Chi-Squared and Fischer Exact testing. These analyses included the specific religion compared to the impact of religion on conversations or prescribing of contraception, as well as the importance of religion in everyday medical practice compared to the impact of religion of specific prescribing done on contraception. Upon further analysis, it was confirmed that 76% of participants rated the importance of religion in their everyday medical practice less than

in their everyday life. When looking at importance of individual religion in life, 76% of participants responded that religion plays at least a moderately important role, if not greater. On the contrary, when asked the same question but in regards to their medical practice, only 47% of participants responded that religion was at least moderately important, if not greater. These results imply that not only does religion not play a significant role in the prescribing of contraception, but for the majority of participants, religion does not have much of a role at all in everyday medical practice.

Despite finding some statistical significance between the beliefs of medical practitioners and the discussions they have with their patients in regard to contraceptive methods, it is challenging to conclude that there is actually a correlation between religious beliefs and prescribing habits of contraception. This may be due to the small sample size and lack of variability in demographics across participants. We had no male respondents, and 59% of the physician assistants who finished the survey had been practicing for six (6) years or less. Therefore, further research with a larger and more diverse sample size could be conducted to further clarify whether any relationship exists between these two variables.

Discussion

There are few studies available that explore to what extent practitioners incorporate religion into their prescribing habits with regards to contraceptives. For this reason, this study was done in an attempt to find a correlation between the religious beliefs of prescribers and the impact that has on their practice in regards to contraception. It was also meant to serve as a reminder that practitioners are encouraged to incorporate their own faith and beliefs into their own personal practice, however they need to be

cautious about not imposing their own beliefs and prejudices about contraception onto others.

In a study done by Lawrence, Rasinski, Yoon, and Curlin in 2011, similar results were discovered. These researchers found that “overall, 4.9% of US Ob/Gyn physicians have a moral or ethical objection to a contraceptive method, and 6.8% would not offer one or more contraceptives if patients requested it” (Lawrence, et. al., 2011, para. 14). In this survey, 1,154 physicians responded to the survey, which in comparison to our 17 participants, shows significant more validity (Lawrence, et. al., 2011,). Lawrence’s study, however, did not specifically ask participants about the importance of religion in everyday medical practice. The majority of participants in this survey identified as Non Evangelical Protestant (27%), and 34% of participants identified that religion is very important in their life (Lawrence, et. al., 2011,). Participants of our survey responded similarly, with 41.2% identifying as Protestant and 53% reporting religion as “extremely important” or “very important” in their everyday life.

Of those contraceptives methods surveyed in the Lawrence study - oral contraceptive pills, implants, intrauterine devices, diaphragms/cervical caps, condoms, and tubal ligation - the contraceptive method most objected to was intrauterine devices (4.4%)- with 3.6% of participants responding that they would not offer this specific type of contraception to patients (Lawrence, et. al., 2011,). Those participants who identified as more religious and attended 2+ religious services each month were more likely to have objections to contraceptive methods, 43% vs 5%, (Lawrence, et. al., 2011,).

This particular study was a helpful resource in conducting our study, however, we felt the information may be a bit outdated. The study was finalized in 2011, with the

majority of data collected in 2008 and 2009 (Lawrence, et. al., 2011,). Currently used intrauterine devices were fairly new at that point in time, with Mirena having been approved in 2000, and Skyla not even getting approval until 2013 (DynaMed, 2016b). There is always new research coming out in regards to the efficacy and side effect profile of various forms of contraception, as well as new drugs or devices being trialed on the market. Therefore, despite the findings of Lawrence, Rasinski, Yoon, and Curlin in 2011, we still felt as though additional research was warranted and further research would still be beneficial, specifically in regards to a correlation between the importance and incorporation of religion into medical practice and views/prescribing of contraceptives.

Some of the most interesting and promising features of this study were the personal responses we received from some of the participants who were genuinely interested in this study. After this survey was released to APAOG members, numerous emails were received from some of the participants expressing their interest in our study and the outcome of the results. Other participants provided suggestions that they thought should be included in future surveys. It was suggested that “none” and “other” be included options when asking about religious affiliations due to the diverse religious beliefs of participants. Furthermore, it was suggested that future researchers specify whether they are interested in all patients using contraceptive methods, such as postmenopausal women using hormone replacement therapy, or just those of reproductive age. Ultimately, this feedback demonstrates that people truly are interested in the topic of faith integration and the prescribing of contraception. Therefore, this study should serve as the starting point for future studies.

Limitations

A major limitation to this study was the sample size. Originally, twenty-four (24) physician assistants started this survey. However, after disqualifying factors and surveys with unanswered questions were eliminated, only seventeen (17) people fully completed all 16 questions in the survey. Furthermore, the target population was too narrow. By surveying only the Association of Physician Assistants in Obstetrics and Gynecology, this study was limited to only those who are currently members of this association, which, as of summer 2017, only had just over 250 members. Survey was accessible to APAOG members through email, which was an additional limitation. Through the monthly newsletter sent out by APAOG, survey was only a small part of a long newsletter and may have been missed by several potential participants.

The researchers had several delimitations as well, including the limitation of religion to specific branches of Christianity. Also only asked participants opinions of four of the most common long-acting, reversible forms of contraceptive currently available to patients. The sensitive nature of the survey was something researchers knew prior to collecting data would result in several participants stopping the survey or not responding to all the questions asked. Both contraception and religion can be somewhat touchy subjects. However, were not anticipating the sample size to be as small as it was, and we are hopeful that future researchers have better luck reaching a larger population.

Recommendations for Further Research

Regarding future research on the correlation between religious beliefs and contraceptive prescribing habits of practitioners, have several recommendations. First, reaching out to more OB/GYN providers may not only produce a larger sample size, it may also provide more statistically significant results that can be applied to more

OB/GYN providers. It is also recommended that future researchers tailor the survey so that only one question be accessible at a time. This would eliminate the possibility for accidental skipped questions, and thus prevent the need to remove unfinished surveys. I also feel that expanding on the incorporation of religion and spirituality into the medical practice could result in some interesting correlations in the future, seeing as that was the only area of analysis that was noted to be of some statistical significance. Lastly, future researchers may be advised to include a larger number of options of religions currently practiced in society today, as well as more contraceptive methods due to the plethora of options available for patients today.

Conclusions

The purpose of this study was to determine whether or not a correlation exists between the religious affiliations and beliefs of medical practitioners and their prescribing habits of long-term contraceptive options to patients. The primary conclusion made from this analysis was that individual religious beliefs do not seem to play a significant role in the prescribing habits of contraceptives with Ob/GYN physician assistants. Despite finding a correlation between importance of religion on everyday medical practice and influence of religion on conversations regarding conversation, the sample size of the survey did not allow for significant correlations to be made.

Based on research findings and literature review, it can be concluded that there is limited correlation between religious beliefs and opinions regarding contraception by medical providers. To the best of our knowledge, this was the first survey incorporating opinions of participants in regards to importance of religion on their everyday medical practice. Therefore, further research would be beneficial to continue analysis as to what

role this variable may play on the growing area of contraception within medicine in society today.

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Appendix A

APAOG Approval Email

APAOG Approval Email

From: Ashley Monson <ashley@badgerbay.co>

Subject: RE: Bethel Survey Approval

Date: July 18, 2017 at 2:08:15 PM CDT

To: Kayla Westling <kaw57258@bethel.edu>

I got approval! Again, we will send out to our members so please send over your drafted text/intro.

Thank you,

Ashley

Appendix B
Consent Form

Consent Form

Dear APAOG Member,

We are physician assistant students from Bethel University's Physician Assistant Program, conducting research in partial fulfillment of the requirements for a Master's Degree in Physician Assistant Studies. Our study is investigating the impact of religious views on the prescribing of contraceptive methods. We hope to learn if there is any relationship between the religious views of practitioners and their prescribing habits of contraceptives. You were selected as a possible participant in this study because you practice in a specialty where it is common to manage patients on contraceptives on a weekly basis.

If you decide to participate, we will ask you 16 questions relating to your current demographics, religious views, and opinions towards various patient encounters that

relate to the prescribing and managing of contraception. We expect the survey to take approximately 10 minutes of your time. The contraceptive options we are specifically inquiring about include oral contraceptive pills (including combined oral contraceptive pills and progestogen-only contraceptive pills), intrauterine contraceptive devices (specifically Mirena and Skyla), injectable contraceptives (including Depo-Provera, Depo-subQ Provera, and Noristerat), and implantable contraceptives (including Implanon and Nexplanon). Some of the questions being asked are relating to a potentially sensitive topic, your religious views. You do not have to answer any question you feel uncomfortable with and may opt out of the survey at any time without any repercussion. Your decision whether or not to participate will not affect your future relations with APOG or Bethel University in any way. Only aggregate data collected through the survey will be reported in the study.

This research project has been reviewed and approved in accordance with Bethel University's Levels of Review for Research with Humans. If you have any questions about the research and/or research participants' rights or wish to report a research related injury, please call or email

Kayla Westling, PA-S- 763-516-5055, kaw57258@bethel.edu

Ashley Overby, PA-S- 715-566-1090

Gregory Ekbohm, MD, Research Chair- g-ekbom@bethel.edu

We understand that you have an extremely busy schedule and your time is limited. Please realize that your participation is vital to the success of this research. The

information that you provide is essential to the validity of this study. Thank you in advance for your prompt response to this study. Please complete the survey by 8/31/17.

Thank you again for your help.

Sincerely,

Kayla Westling and Ashley Overby

Appendix C

Survey

Survey

Religion and Oral Contraception

Q1: Informed consent

Q2 What age range would describe you best?

- 20-29 (1)
- 30-39 (2)
- 40-49 (3)
- 50-59 (4)
- 60+ (5)

Q3 Which gender do you identify with?

- Male (1)
- Female (2)

Q4 What is your current occupation?

- Physician (1)
- Physician Assistant (2)

- Nurse Practitioner (3)
- Other (4)

Q5 Which medical specialty do you currently practice?

- Family Practice (1)
- OB/GYN (2)
- Other (3)

Q6 How long have you practiced in this specialty?

- 0-3 years (1)
- 4-6 years (2)
- 7-10 years (3)
- 11-14 years (4)
- 15+ years (5)

Q7 What is the average number of patients you seen on an average day?

- 5-8 (1)
- 9-12 (2)
- 13-16 (3)
- 17-20 (4)
- 21+ (5)

Q8 Which religion do you most identify with?

- Catholic (1)
- Orthodox (2)
- Protestant (3)
- Other Christian Denomination (4)

- Other (5)

Q9 How important is religion in your life?

- Extremely important (1)
- Very important (2)
- Moderately important (3)
- Slightly important (4)
- Not at all important (5)

Q10 How much would you say your religion plays a role in your everyday medical practice?

- A great deal (1)
- A lot (2)
- A moderate amount (3)
- A little (4)
- None at all (5)

Q11 What is the average number of patients you discuss contraception with on an average day?

- 0-3 (1)
- 4-7 (2)
- 11-14 (3)
- 15-18 (4)
- 19+ (5)

Q12 What percentage of your female patients are currently on some form of long-term contraception that you have prescribed? (Specifically oral contraceptive pills, IUDs, injectable contraceptives, or implantable contraceptives)

- 0-25% (1)
- 26-50% (2)
- 51-75% (3)
- 76-100% (4)

Q13 Of the below listed options for contraception, which one are the majority of your female patients on/using?

- Oral Contraceptive Pills (1)
- IUDs (2)
- Injectable Contraceptives (3)
- Implantable Contraceptives (4)

Q14 Do you feel as though your religious views influence your conversations with patients regarding contraception?

- Yes (1)
- No (2)

Q15 Do you feel as though your religious views influence your prescribing of contraceptives to patients?

- Yes (1)
- No (2)

Q16 Do you have any personal objection to the use of any of the following forms of contraception? If so, indicate if your objections are religious or not religious in nature.

	No Objection (1)	Religious Objection (2)	Non-religious Objection (3)	Both (4)
Oral Contraceptive Pills (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IUDs (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Injectable Contraception (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implantable Contraception (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix D

Reminder Email

Reminder Email

Research Survey

Do you have 5 minutes to spare? Bethel University's Physician Assistant Program is conducting a research study looking at the relationship between religious affiliation and views of the prescribing of long-acting, reversible contraceptive methods. The research will be conducted by means of a short survey which is attached to this email. Please feel free to contact researcher Kayla Westling, PA-S (kaw57258@bethel.edu), researcher Ashley Overby, PA-S (aso57553@bethel.edu), or Research chair Lisa Naser, PA-C (l-naser@bethel.edu) with any questions or concerns! Thank you!

Follow this link to the Survey: Religion and Contraception