THE EFFECT OF RELIGION AND RELIGIOSITY ON CONTRACEPTION DECISIONS AMONG EMERGING ADULTS

by

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Abstract

Emerging adults (age 18-25) are at high risk for unplanned pregnancy because of their relatively low use of contraception. The purpose of this paper is to examine the role of religion and religiosity on contraceptive behaviors among emerging adults. Using different search criteria and databases, thirteen studies were selected for review. Overall, there appears to be negligible influence of religion on contraceptive use among emerging adults. Religiosity had an effect to a certain extent, but there is not enough evidence to make any firm conclusions. None of the studies examined non-student emerging adults, which was an important limitation. Yet, the findings have implications for religious communities and for providers who offer birth control counseling. Further research is urged.

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Problem Statement

Emerging adulthood

When the average age of marriage and parenthood rose steeply over the past decades, developmental psychologists perceived a need to create a distinct life stage; in 1950 the median age of marriage in the United Sates was 20 for women and 22 for men, but by 2000 the typical age of marriage was 25 for women and 27 for men. (1) The dramatic rise in the average age of marriage and parenthood is in part a result of the invention of the birth control pill, in combination with less stringent standards of sexual morality after the sexual revolution of the 1960s and early 1970s, which meant that young people no longer felt the social pressure to enter marriage in order to have a regular sexual relationship. (1) Thus, the term *emerging adulthood* was developed to designate the period between adolescence and complete adulthood, typically between the ages 18 and 25. (1) According to Arnett, (1) who coined the term describing this new stage, there are five essential qualities that characterize this period: exploring the identity, feeling instable, leading self-focused lives, feeling in-between, and perusing the possibilities. In addition, these years are marked by important milestones, such as the right to vote, the right to purchase and consume alcohol, and the right to bear arms. Many emerging adults will also leave the home of their parents or guardians by the time they reach 18 or 19 in order to assume their newfound independence, attend college, or find employment. (1)

Many emerging adults are at risk for unintended pregnancy. Seventy-one percent of women age 18-19 have had sexual intercourse, and over 90% of women aged 22 and older have had sex. (2) Birth rates among older teens age 18-19 are three times higher

than birth rates for younger teen girls. (3) In 2008, the birth rates among 18-19 and 20-24 year olds were 70.7 and 103.1 per 1,000 women, respectively. (4) However, birth rates do not reflect the number of pregnancies that were terminated. Women in their twenties made up more than half of all abortions in 2007; 33% of all abortions in the United States that year were from women age 20-24. (5) This suggests that unplanned pregnancy is rather common among emerging adults. As illustrated in Table 1, the National Survey of Family Growth (NSFG) data show that slightly over half of women 20-24 were using a method of birth control at the time of the interview, which is lower than older age groups. (6) Lower use of contraception may be related to less access to reproductive health services. According to Suellentrop, (3) emerging adults, particularly those age 18-19, have limited access to reproductive health services, prevention programs, and thorough research on how to best meet their needs is lacking.

Table 1. Percent distribution of women aged 15-44 by current contraceptive status and method according to age at interview Data from the National Survey of Family Growth; United States, 2006-2008 (6)

	Any Contraception	Condom	Pill	Hormonal Ring	Implant, Lunelle, Patch	IUD	Depo-Provera	Female Sterilization	Male Sterilization	Natural Family Planning	Calendar Rhythm	Withdrawal	Other Methods	No Method
All Women														
15-19	28.2	6.4	15.2	1	0.5	1	2.6	0	0	0	0	1.1	0	71.8
20-24	54.7	13.4	26.2	3.4	0.8	3.2	2.8	1.3	0.4	0	0.2	2.8	0	45.3
25-29	64.2	13.1	22.6	2	1.3	4	3.3	9.6	2.1	0	0.7	5.1	0.4	35.8
30-34	70.3	12	17.4	1.7	0.9	4.7	1.6	20.6	5.8	0.6	0.7	3.7	0.7	29.7
35-39	75	8.4	14.4	0.7	0.3	4.4	0.7	28.2	12.4	0	0.9	4.3	0	25
40-44	77.8	6.8	8.6	0.3	0	3.2	0.9	39.1	15.3	0	0.5	2.5	0	22.2
15-44	61.8	10	17.3	1.5	0.7	3.4	2	16.7	6.1	0.1	0.5	3.2	0.3	38.2
Women at Risk of Unintended Pregnancy														
15-19	81.3	-	-	-	-	-	-	-	-	-	-	-	-	18.7
20-24	85.7	-	-	-	-	-	-	-	-	-	-	-	-	14.3
25-29	88.2	-	-	-	-	-	-	-	-	-	-	-	-	11.9
30-34	93	-	-	-	-	-	-	-	-	-	-	-	-	7
35-39	90.3	-	-	-	-	-	-	-	-	-	-	-	-	9.7
40-44	92.4	-	-	-	-	-	-	-	-	-	-	-	-	7.6

Barriers to contraceptive use

The characteristics associated with contraceptive non-use have been well documented. In a study by Frost, (7) the following were associated with high rates of contraceptive non-use among women 18-44: being older, specifically between the ages of 35 and 44; being Hispanic or black; having a lower education or not finishing college; having infrequent sexual intercourse (less than once a month); being uninsured; and viewing avoiding pregnancy as very important. As can be seen in Figure 1, the 2002 NSFG report presents information on the factors that affect contraception, and thus fertility; several social determinants, including beliefs and values that can be shaped by religion, affect decisions about intercourse, and therefore contraceptive use. (2) The effect of religion on sexual debut and contraceptive use has been primarily studied among the adolescent population. (8) During adolescence, religion acts as a protective factor for sexual initiation among females particularly; results have been mixed regarding the role of religion on sexual debut among adolescent males. Research findings have also been mixed regarding religion and its effect on contraceptive behavior among teens. A study using Add Health data found that religiosity was not a significant predictor of contraceptive use at first intercourse among non-Black adolescents. (9) Another study using the 1997 National Longitudinal Survey of Youth concluded that high participation in family religious activities was associated with lower odds of using contraception at first sex. (10) However, both of these studies have distinct study samples and their independent variables are measured differently, which could account for the difference in findings. Other studies report significant correlations between more conservative religious affiliations and contraceptive non-use at first sex among both Black and White

adolescent girls. (11,12) Rostosky et al. (8) report multiple limitations that may cloud our understanding of the effect of religion on contraceptive use during adolescence: paucity of studies, lack of longitudinal designs, divergence among measures, samples, and findings. Furthermore, the evidence of religious effects on contraception essentially stops at adolescence; the extent to which religion influences contraceptive use among emerging adults has not been widely studied, if at all.

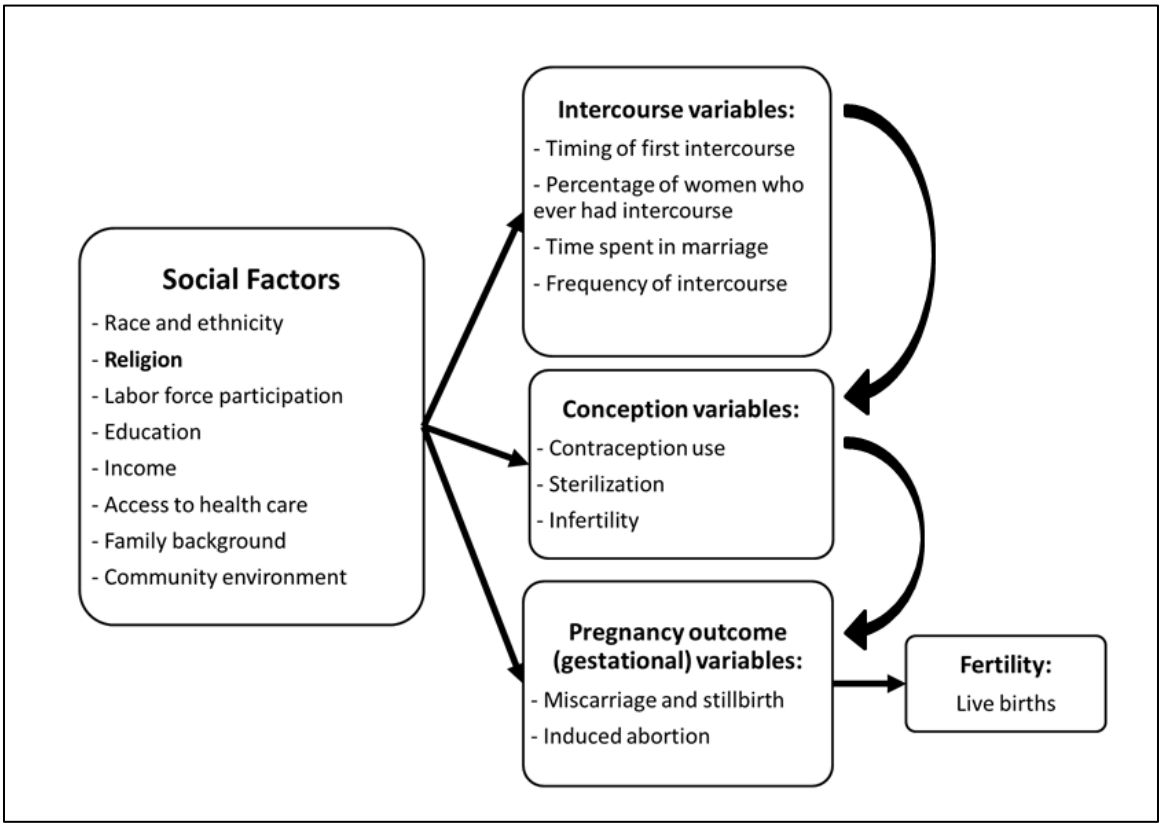

Figure 1. Causal model of the social and intermediate factors leading to live births. (2)

Objective of the paper

Emerging adulthood is an important transition period in the life of an individual. As expected, the majority of 18-25 year olds have had sex and many emerging adults are at high risk for unintended pregnancy. Thus, it is important to understand the factors that increase emerging adults' exposure to the risk of unintended pregnancy. The purpose of

this paper is to examine the role of religion and religiosity on contraceptive behavior among emerging adults. I will review the research literature and summarize the findings of studies that have examined religion and contraception use among 18-25 year olds. In addition to providing guidance for future research, the findings from the literature review will also enable a discussion of their implications for health care providers who provide contraceptive counseling, as well as for religious communities. If important findings and patterns emerge, religious communities should be educated about these conclusions and an analysis for future directions would be appropriate.

Religions and Their Views on Contraception

Religion in the United States

In 2008, 80% of the U.S. adult population identified with a religion. A large majority (76%) of Americans identified with a Christian denomination, particularly Catholic (25%) and Baptist (15%); 15% of adults in the United States reported either being atheist, agnostic, or having no religion. (13) Figure 2 provides additional information on the population distribution by religious denomination.

The data presented in Figure 2 should be interpreted with caution. A group of people may identify with a certain religion, but their individual level of religiosity may vary greatly within that religious group. Furthermore, the concept of "religiosity" is also a complex variable to measure; there are different ways to interpret and measure it. In any case, religion could potentially influence a woman at many stages of her sexual and reproductive life. These might include values and priorities learned before sexual debut; timing of her sexual debut; views on the relationship between sex, childbearing and marriage; contraceptive choices; and decision regarding abortion. (14). Thus, it is

important to consider the different religions and their views or beliefs regarding contraception and abortion.

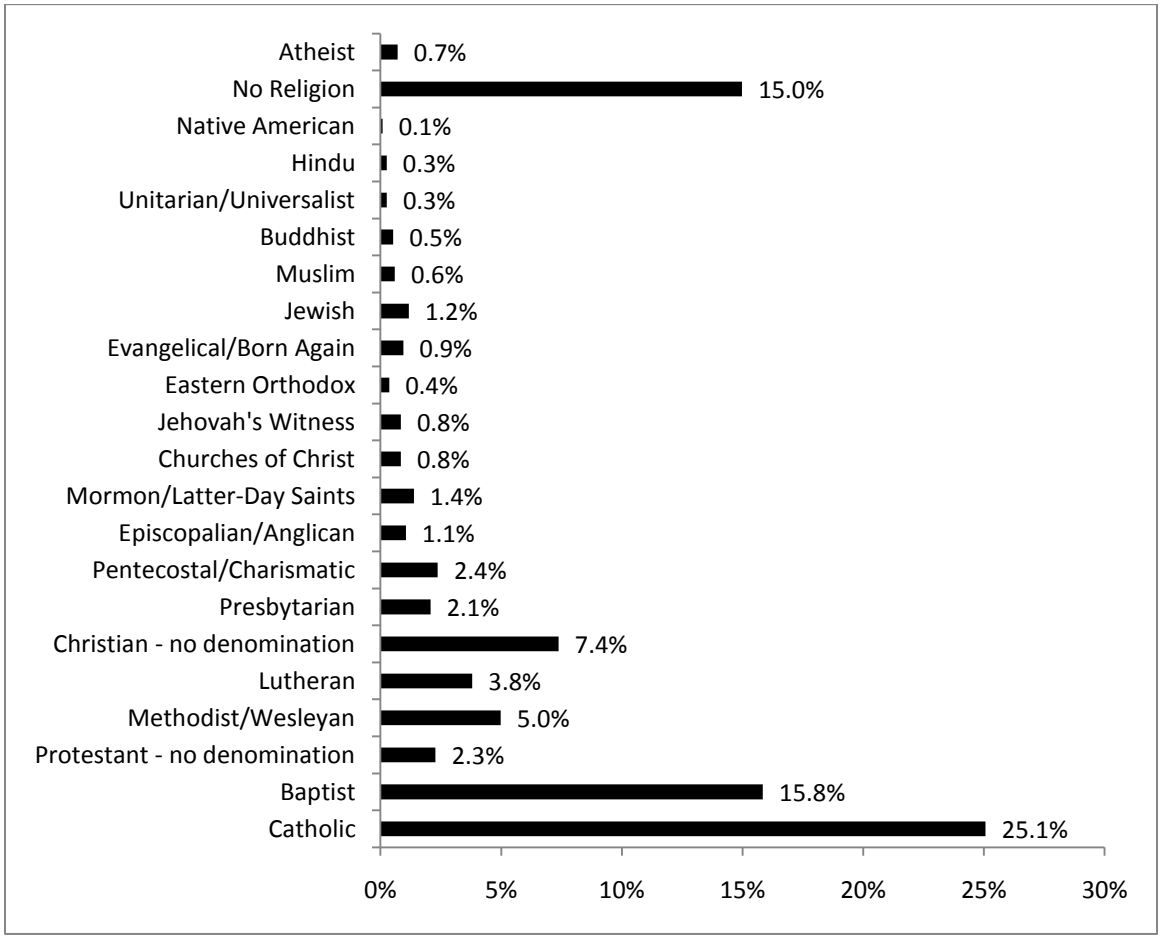

Figure 2. Percent distribution of adults by religious affiliation. Data from the U.S. Census Bureau; United States, 2008. (13)

During emerging adulthood, religion, religiosity, or spirituality is subject to change. In actuality, there is little relationship between the values conveyed through religious training received during childhood and the religious beliefs held by the time individuals reach emerging adulthood. (1) The diverse religious beliefs among emerging adults fell into four categories defined by the authors: 22% agnostic or atheist, 28% deist, 27% liberal believer, and 23% conservative believer. (1) Many of the individuals

interviewed in Arnett's book (1) reported various beliefs but did not endorse much defined religious views. Many saw religion more as "one shoe does not fit all", meaning that people rarely strictly adhere to the religious beliefs of a particular religious denomination; people may need guidance from a religious group but their beliefs and actions may be shaped by many external factors outside of the religion. When we talk about the period of emerging adulthood, this period, like any other, is very cultural. (1) In certain religious groups, such as Mormons, there is a cultural push for a shorter emerging adulthood period where individuals are encouraged to get married and initiate parenthood at an earlier age than the average modern emerging adult. Thus, it is important not to omit the cultural context of emerging adulthood and its influence on the way we interpret any findings. Furthermore, each religious branch holds its own beliefs and sanctions regarding sex, contraception, and abortion. The following sections will describe some of the core beliefs held by the most common religious denominations in North America, as described by Srikanthan & Reid. (15)

Christianity

Christianity contains three major dominations: Roman Catholic, Eastern Orthodoxy, and Protestantism. Within Catholicism, every act of intercourse, which is only allowed within the realm of marriage, is seen as a potential for conception. (16) Scripture does not prohibit married couples from using a method to prevent pregnancy. The only notable exception is the Roman Catholic Church, which bans hormonal and barrier methods of contraception because they are deemed unnatural; (17) abstinence and the rhythm method are the only officially approved methods of contraception and should only be used for birth spacing. (18) Permanent forms of contraception may not be used

unless a morally justifiable reason exists. (19) Abortion and emergency contraception are prohibited, unless it is to save a mother. (17)

Conservative Protestants, such as Evangelical and Fundamentalist Protestants, generally disapprove of contraception. However, there are no prohibitions against using contraception within a marriage that already has children. (17) The permissibility of abortion and emergency contraception varies between denominations. Conservative Protestants prohibit all abortions, yet most mainstream conservative Protestants permit terminations to save a mother's life. Liberal Protestants allow a woman to make her own decision regardless of the situation. (17)

Judaism

Judaism can be broken down into four denominations: Orthodox, Conservative, Reform, and Reconstructionist. More liberal Jewish denominations, such as Reform, permit birth control use by men and women, even outside of marriage. (20) Reform Judaism believes that it is a woman's right to decide to have an abortion and use emergency contraception. (20)

Orthodox Judaism is stricter, as it forbids the "spilling" of male seeds and thus prohibits the use of contraception by men, such as coitus interruptus and condoms. However, women are not bound by this prohibition. (20) Because a woman's conjugal rights (the rights of a woman to regular, voluntary intercourse) should not be frustrated, abstinence is prohibited and the rhythm method is considered unacceptable. It is forbidden to impair the male reproductive system, thus male sterilization is prohibited. (16) Oral contraceptive pills are the most permissible method, along with diaphragms, and spermicides. (16) However, non-hormonal intra-uterine devices are controversial

because they may prevent implantation of a fertilized egg, which equates to a form of abortion. Interestingly, the Orthodox practice of niddah further influences contraceptive choices, such as Implanon, because problems can arise with sporadic spotting, causing potential barriers to women's conjugal rights. Niddah is "the spiritual state induced in a woman by uterine bleeding, typically as a result of menstruation or childbirth, during which time she and her husband maintain physical separation. To end the status, a woman counts seven days after the bleeding has stopped completely, then immerses in a mikveh (a type of bath)." (21) Within Orthodox Judaism, terminations are only permitted when the mother's life is threatened through either physical or mental illness, and Conservative Judaism is generally more lenient on the topic. (20) The permissibility of emergency contraception is similar to the permissibility of terminations. (22)

Islam

Islamic jurists classify human actions as obligatory, recommended, permitted, disapproved but not forbidden, or forbidden. (23) Sex is permitted, but only within marriage. Because Muslims traditionally believe that the exclusive purpose of each sexual act does not need to be for procreation, the majority of Islamic jurists indicate that family planning is not forbidden. (24) The classification of contraception ranges from permissible to disapproved, and this depends on the varying opinions of Muslims. Historically, coitus interruptus has been permitted in the Quran. (24) While some fundamentalist Muslims are against any form of contraception, temporary, safe, and legal modern methods of contraception are permitted. (18) Any device that does not induce abortion and is reversible may be used, which is why irreversible sterilization methods are not permitted. Women who value regular monthly menstruation may not accept the

use of continuous hormonal contraception methods. (20) Abortion is considered a serious crime equivalent to that of murder. Emergency contraception is also condemned. However, the prevailing view is that both are permissible in certain situations (i.e. risk of maternal mortality, a deformed or non-viable fetus, rape, and economic indications). (25)

Hinduism

Sexual relationships are to be experienced and mutually enjoyed within the realm of marriage, and they can be for procreation and pleasure. (26)There are no official prohibitions or obligations with respect to contraception. Thus, all contraceptive methods are acceptable, including continuous contraception, as long as the contraceptive intent is morally acceptable. (18, 27) Abortion and emergency contraception are condemned. However, there is some flexibility; Hinduism has traditionally rejected absolutism and encourages individuals to act in accordance to their beliefs. (28) An important consideration is that discussions about contraception, sex, abortion, and other sexual health matters are often considered a taboo topic in traditional Indian families. (29)

Buddhism

Buddhism traditionally does not stress procreation. Marriage and sexuality are positively viewed, but marriage is not a religious duty. (29) The Buddhist attitude towards family planning allows both men and women the right to use any non-violent form of contraception as long as the intent to use contraception is morally acceptable. (30) Typically, abstinence is the method of choice, but other methods, including permanent sterilization and modern hormonal methods are permissible. Abortion and emergency contraception are generally forbidden but both are acceptable in certain situations. (31)

Chinese Religious Traditions

Chinese religious traditions value family planning as a way to promote healthy families and children. (32) There is no general religious opposition to any contraceptive method; all modern contraceptive methods are permissible. (32) Because of beliefs regarding harmony with nature, natural methods of contraception are preferred among traditional ethnic Chinese. Generally, abortion and emergency contraception are not permitted, but neither is explicitly prohibited. (32)

Mormonism

Many of the rules for sexual conduct are derived from their biblically rooted New England Heritage. Sexual relations are permitted within the realm of marriage only, and the primary purpose of sex is procreation, although a husband and wife may have sex to express their love. (33) Mormonism encourages procreation and large families, but the decision to use birth control is essentially left to the married couple. The Mormon Church is generally opposed to abortion, but certain exceptions apply (i.e. rape, incest, compromised health of the mother, and severe medical defects of the fetus). (33)

Religion and Contraception

Methods for selecting articles

Many studies have investigated the relationship between religion and contraception among adolescents. Yet, few studies have looked at this relationship among emerging adults only. Several studies surveyed college students, but they do not portray a complete picture of emerging adults 18-25. In 2007, 39% of emerging adults 18-24 were enrolled in a degree-granting institution, (34) thus studies surveying college students present findings that can only be generalized to a minority of emerging adults. I primarily

searched for articles with a participant pool that included emerging adults. However, multiple studies examined adults up to 40 years old and others included participants as young as 15. As a result, I decided to include these articles for the review as long as a portion of the participants were 18-25 years old.

I searched for articles in the following databases: PubMed, PsycInfo, Google Scholar, and CINAHL. Keywords that were used included: contraception, birth control, contraceptive, condom, religion, religiosity, Jewish, Islam, Fundamentalist. I did not use any key words related to age groups as I preferred to examine all articles pertaining to contraception and religion, and from there eliminate the ones that did not include 18-25 year olds. A total of 13 articles were selected based on the presence of religious and contraceptive measures, their analyses to test the relationship between these measures, and the inclusion of the population of interest. Table 2 provides information on each of the studies; authors, date of publication, data information, and participant characteristics. Several articles examined emergency contraception, and these are addressed in a separate section since the use of this method of birth control is controversial among certain religious communities.

Table 2. Study and participant information of the 13 articles selected for review.

Authors	Publication Year	Data Set	Data Collection Year	N	Participants characteristics
Kramer MP, Rowland Hogue CJ, Gaydos LMD	2007	NSFG	2002	4,076	Women 15-44 years old who are potentially at risk for unintended pregnancy, so women who are neither pregnant, intendind to become pregnant, sterile, or abstinent in the 3 months before the interview.
Jones RK, Darroch JE, Singh S	2004	NSFG	1995	2,914	Women 15-24 years old.
Gold MA, Sheftel AV, Chiappetta L,	2010	Collected by study	-	572	Women 13-21 years old, regardless of their sexual and contraceptive history (stratified 13-17 and 18-21). Exclusion criteria:

Young AJ, Zuckoff A, DiClemente CC, Primack BA					inability to speak English, being pregnant or intending to become pregnant in the next 18 months, being sterile, having a contraceptive implant or IUD, planning exclusively same-gender sexual relationships in the future, being in jail or on house arrest, being in foster care, or having visual or hearing impairment that would interfere with counseling and study interviews.
Raine T, Minnis AM, Padian NS	2003	Collected by study from San Francisco bay area clinics	1996-1999	405	Sexually active (defined as having vaginal sex at least three times in the previous 3 months) women 15-24 years old who were not pregnant or trying to get pregnant.
Romo LF, Berenson AB, Segars A	2004	Collected by study at two university reproductive health clinics in Texas	-	234	Pregnant women age 18-40 (mean was 27.2) who self-identified as Latina mostly from low-income and low-educational backgrounds.
Lefkowitz ES, Gillen MM, Shearer CL, Boone TL	2004	Collected by study from university in Eastern United States	-	205	Male and female undergraduate students 18-25 years old.
Venkat P, Masch R, Ng E, Cremer M, Richman S, Arslan A	2008	Collected by study from a hospital in NYC	2004	102	Latina women age 16-70 (67% fell under the 16-30 age range).
Romo LF, Berenson AB, Wu ZH	2004	Collected by study from two university reproductive health clinics in Texas	-	297	Latina women age 18-44 (mean age was 27.4) mostly from low-income and low-educational backgrounds who responded questions about Emergency Contraception. 76% of sample was pregnant at the time of the survey.
Fehring RJ, Ohlendorf J	2007	NSFG	2002	9,885	Married and unmarried women (mean age was 29.5; SD=8.43) who answered questions about contraceptive practices.
Goldscheider C, Misher WD	1991	NSFG	1988	8,450	Married and unmarried women age 15-44.
Jemmott LS, Jemmott JB, Villarruel AM	2002	Collected by study	-	199	Male and female Latino undergraduate and graduate students. Mean age was 23.2 (SD=5.2). Participants were unmarried and reported never being sexually involved with a same-gender partner.
Zaleski EH, Schiaffino KM	2000	Collected by study from an urban Catholic university	-	231	Male and female college freshmen age 16-20 (mean age was 17.9)
Dodge B, Sandfort TGM, Yarber WL, de Wit J	2005	Collected by study from one large public university in Mid-western United States and one large public university in the Netherlands	2002	242	Male college students in the United States and the Netherlands who reported having had vaginal, oral, and/or anal sex with a female partner at least once during the preceding 3 months. Participants over the age of 30 were excluded from the sample. Mean age was 22 years (SD=2.59).

Religious denominations

Few studies examined multiple religious denominations other than the most common branches of Christianity. Overall, results show that religious affiliation by denomination has little, if any, influence on contraceptive behavior. A study conducted by Kramer et al. (14) used 2002 NSFG data and looked at childhood religion and current religion among participants age 15-44. Catholics, Fundamentalist Protestants and those who report no religion were found to be greater risk-takers (having sexual intercourse within 3 months of interview without using a method of contraception) than mainline Protestants and those from other religious groups. Participants who reported being Catholics or Fundamentalists during childhood had increased crude odds ratios for not contracepting compared to those who reported being mainline Protestants as a child. However, participants who reported being Catholic at the time of the interview did not have an increased crude odds ratio for not contracepting when compared to mainline Protestants, but participants who reported being Fundamentalist Protestants at the time of the interview did have an increased crude odds ratio for not contracepting. The researchers concluded that religion had an effect on the nonuse of contraception during adolescence but not adulthood. (14) However, 55.7% of the study sample was 25 or older and 18% of the sample was 19 or younger; the large participation of older participants and adolescents make it difficult to interpret the results for emerging adults only. Another study using 2002 NSFG data, with the majority of its female participants being over age 25, compared Roman Catholics and other American women. (35) Although significance levels were not calculated, Roman Catholic women, when compared to other American women, were slightly more likely to be currently using the birth control pill and the

natural family planning method, were less likely to use surgical sterilization (male and female combined), and were equally likely to be using condoms. Other findings from NSFG data collected in 1998 indicate that a lower proportion of Fundamentalist Protestants use methods of contraception than other Protestants (among contraceptors, Fundamentalist Protestants have a higher proportion of female sterilization use), although Fundamentalist Protestants also have lower proportions of sexual activity. (36)

Several studies examined the population of interest, emerging adults. Raine et al. (37) found that women age 15-24 raised with a religion were significantly less likely to use a hormonal method of contraception. The authors concluded that these women may feel more uncomfortable taking the necessary steps to obtain hormonal birth control because of the sanctions of their religion, which may make them less likely to acknowledge or anticipate their sexual behaviors. On the other hand, Lefkowitz et al. (38), who interviewed college students age 18-25, found no difference between religious groups (Catholic, Protestants, nonbelievers, Jewish, Muslim, Hindu, Buddhist, although the last 3 made up 5% of sample) in condom use, but nonbelievers reported marginally higher confidence in their ability to talk to a partner about condoms than did Protestants or Catholics. Emerging adults may know about the importance of using condoms, but those who are affiliated with a religion may have been less exposed to open discussions regarding the use of condoms, and are therefore less comfortable talking about condom use with sexual partners.

Kramer et al. (14) found differences between religious groups when participants were divided by poverty level (less than 100% of poverty line, 100-199% of poverty line, and 200%+ poverty line for household income), suggesting that other factors come into

play. For current religious affiliation, when comparing coital interruptus and commercial birth control, the odds ratios were very close between religious groups among the wealthiest and poorest thirds. However, among the moderately poor, Fundamentalist Protestants had an increased odds ratio of using coitus interruptus (versus commercial birth control) compared to other religious groups in the study. (14) For childhood religious affiliation, results still show no difference between religious groups among the wealthiest third, when comparing coitus interruptus and commercial birth control use. However, there were differences among the poorest and the moderately poor groups; poor Fundamentalist Protestants and those with no religion had increased odds ratios of using coitus interruptus when compared to other low-income participants from other religious groups, and moderately poor Catholics had an increased odds ratio of using coitus interruptus when compared to other moderately poor religious groups (including those with no religion). (14) If religion were to influence the use of effective commercial contraceptive methods, which are more expensive, similar odds ratios should have been observed among all income groups. However, the fact that no difference was found among the wealthiest group, and not among the other groups, may suggest that income may be one of the factors influencing effective contraceptive use. Another study, (39) which used 1995 NSFG data of 2,914 women age 15-24, included multiple factors in its statistical model and found that when they controlled for mother's education, race and ethnicity, family structure, and timing of first sex, religious affiliation was not associated with contraceptive use at first sex. However, it is important to consider that “first sex” might have occurred during adolescence. Race and ethnicity were not consistently examined in the 13 selected studies, thus it is difficult to examine their role in

contraceptive use. When surveying Latinas 18-40 years old, Romo et al. (40) found that religion was not directly associated with consistency of contraceptive use.

Religious service attendance

The impact of religious service attendance on contraceptive behavior varies, but overall it appears to have little influence. Frequency of religious service attendance is intended to measure some aspect of religiosity, with the idea that individuals who frequently attend religious services are more likely to adhere to the beliefs and values of their religious denomination. Kramer et al. (14) and Jones et al. (39) found that the frequency of religious service attendance was hardly associated with contraceptive use. Jones et al. (39) controlled for race and ethnicity, mother's education, family structure, timing of first sex, and attendance of religious services at 14; they found that there was no association between the frequency of religious service attendance and contraceptive use at first sex. However, they did find that among sexually active women age 20-24, those who attended religious services less frequently while growing up were significantly less likely than those who did so every week to be using contraception.

Other studies found evidence that the frequency of religious service attendance may affect contraceptive behavior. Women age 18-44 with high church attendance were 38% more likely to be sterilized, 51% more likely to have a male partner who was sterilized, and 188% more likely ever to have used the natural family planning method. (35) The same women with high church attendance were 48% less likely ever to have used condoms compared to women who were classified as “low church attendance,” but there was no difference in the frequency of lifetime oral contraceptive pill use. (35) The study sample included married and unmarried women, thus the lower proportion of

condom use among more religious (in this case, defined by high religious service attendance) women could be a result of their married status, where the prevention of sexually transmitted infections (STI) may not be deemed necessary so an alternative contraceptive method can be used. Other evidence shows that Catholics who attend church more regularly are less likely to use a method of contraception. (36) Interestingly, among contraceptors, Catholics who attend religious services more frequently are more likely to use condoms and male sterilization than Catholics with "low" church attendance, but are less likely to use the pill. When broken down by race and ethnicity (Catholic non-Hispanic white, Catholic non-Hispanic black, and Catholic Hispanic), the same significant differences in contraceptive use between "high" and "low" church attendance were found among non-Hispanic whites, but not among the other ethnicities, with the exception that Hispanics with "high" church attendance are more likely to use condoms than those with "low" church attendance. (36) The two studies above show some contrasting findings, although both are using NSFG data but from two different collection periods.

Among Latinas, church attendance was not directly associated with consistent contraceptive use, (40) and did not significantly affect beliefs about safety and efficacy of contraceptive methods with the exception of Depo-Provera (DMPA), which was thought to be more harmful among weekly church attendees, and the Patch, which was thought less effective by weekly church attendees. (41)

Importance of religion

Importance of religion, or sometimes referred to as "religiosity", is a measure often based on the question "how important is religion in your life?" or a composite of

questions about the role of religion in one's life. Several studies have found that the importance of religion has no significant association with contraceptive use. A study by Gold et al. (42) surveying women 13-21 years old found that compared with those in the low religiosity group (religiosity is based on 4 items and not only on importance of religion), those in the medium and high religiosity groups were not more likely to have used contraception at last sex, or to plan on using contraception at next sex. It is important to note that the above sample is quite young and thus other factors that are particularly influential during adolescence but not as much in adulthood (e.g. sexual history, being a minor and having limited access to contraceptive options) may play a role.

Several studies examined condom use specifically. Condom use is particularly important during emerging adulthood due to its benefit of preventing pregnancy *and* STIs, especially since individuals age 18-24 are particularly at risk for STIs. Among university students 18-25 years old, there was no association between religiosity and regularity of condom use. (38) However, when they examined behaviors and attitudes surrounding condom use, they found that individuals who followed their religion more closely were less likely to believe that condoms could prevent negative outcomes such as STIs or pregnancy. This could be because the analysis includes the attituded of people who have never been sexually active, and thus have never thought about using a condom. Furthermore, individuals who perceived that their religions have more sanctions against sexual behaviors had less self-efficacy (i.e. communicating with partner about using condoms) for using and buying condoms. (38) Individuals who adhered more strongly to their religion perceived more barriers to condom use (i.e. feeling uncomfortable carrying

condoms around). (38) Another study looked at intrinsic and extrinsic religiosity among freshmen students at a Catholic University. (43) According to Allport et al. (44), who first studied these two types of religiosity, extrinsically motivated persons *use* their religion, whereas intrinsically motivated persons *live* their religion, but most people fall upon a continuum between those two types. The results indicate that sexually active students with high levels of intrinsic and extrinsic religious identification were less likely to use condoms. (43) Latino students who scored higher in religiosity had stronger intentions to use condoms and were more likely to use condoms the most recent time they had anal intercourse, while Hispanic ethnicity was unrelated to intentions and self-reported condom use. (45) Although unrelated to preventing pregnancy, unprotected anal sex is important to address because it places individuals at risk for STIs.

Other studies found that religious importance had some effect on the use of contraceptive methods other than condoms. Fehring & Ohlendorf (35) observed that women who viewed religion as very important were 21% less likely ever to have used the pill and 50% less likely ever to have used the male condom than women who reported religion as not very important. When compared to those who reported religion as not very important, women who reported religion as very important were 164% more likely ever to have used the natural family planning method and 68% more likely to be sterilized, but there is no statistical difference in frequency of having a male partner who has been sterilized. (35) However, the mean age for this study was 29, so these results, specifically around sterilization, should be considered carefully as older women are more likely to be sterilized (see Table 1). Additionally, as mentioned earlier, older and married women

may be less inclined to using condoms with their partner, so the results above should be interpreted conservatively.

One of the studies examined and compared male college students in the United States and in the Netherlands. In both cultures, those who reported a higher importance of religion were less likely to use adequate contraception (inadequate contraception was defined as either not using a method to prevent pregnancy or using coitus interruptus) and were more likely to have impregnated a partner. (46) In multivariate analyses, national culture as a predictor disappeared, which demonstrates that the variable *religiosity* functions in similar ways within both the United States and the Netherlands.

Emergency contraception

As mentioned in the section describing the different religious views, many religious denominations frown upon the use of emergency contraception. In fact, most view the use of emergency contraception as "sinful" as the act of terminating a pregnancy. Thus, the role of religion in the use of emergency contraception may be exacerbated among emerging adults.

There are numerous misconceptions regarding the way the emergency contraception, or the "morning after pill", works. In actuality, there is no consensus on how emergency contraception works, except that we know it tricks the ovaries into sensing that ovulation has already occurred so no eggs may mature, and it thickens cervical mucus to hinder sperm from traveling upwards. (47) A study examining the association between religious views and knowledge about emergency contraception, as well as willingness to use it, reported surprising results. (48) Study participants were Latina women who reported either being Catholic or non-Catholic. There was no

statistical difference between both groups in their knowledge about the method. The group that was most unwilling to use the morning after pill expressed higher levels of agreement that religious or moral factors were barriers to emergency contraception use compared to women in the willing group. However, morality concerns regarding emergency contraception did not correlate with frequency of church attendance nor their affiliation.

Limitations and future directions

It must first be noted that this literature review consists of important limitations, which could drastically hinder the ability to have a clear understanding of the role of religion in contraceptive use and beliefs. The main limitation is the limited availability of research studies examining emerging adults only. Most of the studies include adolescents, older adults, or only college students. Future studies should truly consider the importance of examining all emerging adults, and not solely those who attend college. I would expect that religion plays a lesser role on sexual attitudes and experiences among emerging adulthood than it does during adolescence, particularly as sexually active 18-25 year olds are waiting longer to get married. However, I believe that religion may be particularly influential in emerging adults' knowledge and use of contraception, especially hormonal methods (e.g. pills Implanon, IUD). As a result of the limited reproductive health services and pregnancy prevention programs targeting emerging adults, it is important to understand what places emerging adults at risk for unplanned pregnancy so that effective programs can be developed in the future.

Among most studies, religiosity is a difficult concept to measure and researchers measure it differently. This is an important limitation for this literature review because

there was no consistency in this crucial variable. Furthermore, there was poor representation from many religious groups. Jewish, Muslim, Mormons, Hindi and other religious groups were frequently all clustered together and labeled as "other religions". It would be valuable to examine these religious groups separately, in order to shed some light on their birth control needs. The majority of studies examined Protestants and Catholics. Whereas these two groups make up the majority of the U.S. population, researchers should nonetheless consider oversampling other religious groups. Moreover, researchers should make a distinction between religiosity and spirituality, which is uncommon in past research.

Implications

Implications for contraception counseling

Providers in many different settings may encounter emerging adults who may need to be counseled about birth control. Although results from this literature review demonstrate that religion does not play a major role in determining contraceptive use, the picture is currently incomplete. Jones et al. (39) found that religious affiliation and frequency of religious attendance were not significant predictors of family planning visits within 6 months of intercourse for women age 15-24, thus it can be expected that religious sexually active women may seek birth control counseling. Counselors should not only consider a patient's religion or spirituality and their associated "rules" that govern sexual behaviors and contraceptive use, but also the traditions that may make the use of birth control more complicated. For instance, among Orthodox Jewish women, niddah may make the use of progestin only methods less practical. Gold et al. (42) suggest that clinicians ask about religious attendance as well as the influence of religious

beliefs on sexual behaviors. It is important that providers feel comfortable asking about patients' religious beliefs, as stereotypes can result in inadequate provision of services, even when the provider has the best intentions to respect presumed cultural differences. (40) That being said, health care providers are not required to know about all religions and their associated beliefs. It is only suggested that clinicians ask if religious or other beliefs should be taken into account when discussing birth control or sexuality.

When discussing birth control methods, STIs may not come to mind. However, condom use was shown to vary slightly between religious groups and religious behaviors. This has important implications not only for unplanned pregnancy but for STIs and access to testing and treatment services. Sexually transmitted infections can be transmitted through oral, anal, as well as vaginal sex. Thus, even if the risk for pregnancy is not a concern, there remains a risk for STIs. Patients who report "not having sex" because of religious beliefs may be referring only to vaginal sex, and may therefore be engaging in other types of risky sex. Thus, in addition to inquiring about religion and religiosity, it is important to clarify any terms that are used, so as to not make any assumptions and premature conclusions.

Implications for religious communities

Considering how abortion is often times perceived as a "sin" and how many pregnancies end in abortion among women age 18-24, avoiding an unplanned pregnancy, and thus abortion might be very important to many women. It would be valuable for religious communities to know the proportion of followers that are having sex without the intention of becoming pregnant. From there, thorough and accurate education of the different contraception methods is strongly encouraged. This may also help dispel myths

concerning the way the morning after pill works. Leftowitz et al. (38) found that individuals who perceived that their religions have more sanctions against sexual behaviors had less self-efficacy (i.e. communicating with partner about using condoms) for using and buying condoms. Thus, educational sessions should also include partner communication skills, and other self-efficacy skills. Proper education can result in fewer unplanned pregnancies and reduce STI incidence. However, this can be especially difficult to implement among religious denominations that ban intercourse and contraception outside the realm of marriage. Public health professionals may need to show evidence of the proportion of unmarried emerging adults in the more conservative religious communities who are having sex, and the rates of unplanned pregnancy and abortion. With clear data, public health professionals may be able to work with the more conservative religious groups to incorporate adequate education, if the data indicate that it would be beneficial.

Conclusion

There appears to be negligible influence of religion on contraceptive behavior among emerging adults. However, there is clearly still a lack of evidence to make such a firm conclusion. Of the 13 studies selected, several important findings emerged. Overall, Fundamentalist Protestants surfaced as the religious group less likely to use contraception when compared to other Protestants. Among emerging adults, those who were raised with a religion were less likely to use a hormonal, and therefore effective, method of contraception. Women who reported “low” religious service attendance while growing up were less likely to use contraception currently. However, women with present “high” religious attendance and “high” religiosity were more likely to be using more

"traditional" methods, such as natural family planning and sterilization. As pointed out earlier, the latter is particularly popular among older women, and thus should probably not be interpreted as relevant to emerging adults. Religiosity was largely non-influential on the use of contraception and condoms. However, emerging adults in college with higher religiosity were less likely to believe that condoms prevent HIV and pregnancy, and perceived more barriers to condom use. Few studies looked at other factors, such as socioeconomic status, race and ethnicity, age, gender, etc. Three of the studies selected surveyed Latinos and found that religion and church attendance had no effect on contraceptive use, but that increased religiosity had a positive effect on recent condom use and intention to use condoms in the future.

Although the results remain largely inconclusive, the implications are nonetheless important for contraception counseling and education among religious communities. Future research should investigate the relationship between religion and contraception among all emerging adults, and not merely college students. College students often times have adequate access to family planning services and numerous colleges make efforts to raise awareness on their campus. As public health professionals, we strive to address the needs of every population and this is best accomplished with a clear understanding of those needs. Populations and their beliefs, values, and behaviors are constantly and progressively shifting. Thus, it is important for research and programs to follow such progress.

Several religious groups and communities in the United States are becoming more progressive in their views, and thus religiosity may no longer be impacting contraception choices like before. This does not mean that we should overlook religion as an influential

factor when counseling individuals on contraception and other topics of sexuality. Personal views should be carefully accounted for in every visit, despite assumptions. It is important to consider that race and ethnicity, as well as education may be more influential and be better proxies for assessing disparities in contraceptive use among emerging adults. For instance, race and ethnicity *within* religious denominations alone show significant differences in sexual and reproductive behaviors. (49) This paper examined contraception use only. It is possible that religion influences other sexual behaviors as well (i.e. first sex, number of sexual partners, gender of sexual partners, and type of sex) among emerging adults.

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