University of North Carolina Asheville
Journal on Undergraduate Research
Asheville, North Carolina
May 2017

Contraceptive Counseling among Female College Students

Grace King
Health and Wellness Promotion
The University of North Carolina Asheville
One University Heights
Asheville, North Carolina 28804 USA

Faculty Advisers: Dr. Ameena Batada and Lecturer Ellen Bailey

Abstract

Despite a plethora of research about contraceptive safety and efficacy in the United States, little is known about how contraceptive counseling affects patient experience and contraceptive use. Contraceptive counseling is the time when a provider discusses contraceptive methods with their client. The aims of this study are to investigate whether perceived quality of contraceptive counseling and perceived bias from providers are associated with satisfaction, choice, and continuation of a patient's contraceptive method among college-aged women. This study is a cross-sectional survey of college students. The methods of this study included an anonymous survey administered to 200 students across 18 sections of Humanities classes that include students from all disciplines and years, at a small liberal arts college in the Southeast United States. The questionnaire included both closed- and open-ended questions regarding perceived bias, what kind of contraceptive counseling they received, how satisfied and willing to continue their current contraceptive method they are, and questions about their sex and self-identified gender. Quantitative data were analyzed for female individuals who have received contraceptive counseling. Participants who were "very satisfied" with their contraceptive counseling, 93.55% of participants were either "very satisfied" or "somewhat satisfied" with their current contraceptive method (n=146). The Pearson correlation coefficient was 0.3892 ($p<0.001$). The survey results suggest that more comprehensive contraceptive counseling is associated with higher satisfaction of the chosen method to decrease unplanned pregnancies and adverse effects. These finding indicate that if providers give patients unbiased, comprehensive counseling, then users of contraceptives will feel more confident in and satisfied with the method they are using.

Keywords: contraceptives, contraceptive counseling, LARCs

1. Background: Where the focus of contraceptive research has been

Approximately 62 percent of women in the United States are using contraceptive methods [10], making contraceptive use an important issue, but one that appears to not be . Around half of all pregnancies in the United States are unplanned[4], and most women report at least one type of adverse effect with the contraceptive method they are currently using, particularly with hormonal methods[6].

The current rate of having an unintended pregnancy before age 20 is 3 in 10 in the United States, which has fallen in the past two decades[13], but is still much higher than other developed countries[12]. Furthermore, college-aged women between ages 20-24 are a group with one of the highest rates of unplanned pregnancies in the United States. Unfortunately, there is a large disparity in the rate of all unplanned pregnancies, particularly with women under age 20 and in college aged women[1]. African-American and Latina teenagers are more than twice as likely as their Caucasian counterparts to become pregnant before age 20, and women, regardless of age, who are in poverty are five times more likely to become pregnant than their wealthy peers. These unplanned pregnancies lead to many health and socioeconomic issues including the perpetuation of poverty, higher rates of maternal depression, higher risk for intimate partner violence, and a higher likelihood of low-birthweight infants which can lead to significant long-term

health problems for the infant[15]. The drive to decrease the amount of unintended pregnancies and help close this disparity in the United States has led to the creation of contraceptives choices that take the user error out of the situation. Long Acting Reversible Contraceptives have become an answer to the public health problem of high unplanned pregnancies[7,18].

There are currently four Long Acting Reversible Contraceptives (LARCs) available in the United States. They are: a 52 mg levonorgestrel-releasing intrauterine system, a 13.5 mg levonorgestrel-releasing intrauterine system (hereafter referred to as LNG-IUS), a copper T380A intrauterine device (referred to as the Copper IUD), and a single-rod 68 mg etonogestrel implant (referred to as the arm implant). Except for the Copper IUD which is non-hormonal, these LARCs work by using the hormone progesterone to prevent pregnancy. Progesterone prevents pregnancy by thickening the cervical mucus and suppressing ovulation. These are the most effective contraceptive methods on the market available at 99.8 percent, 99.8 percent, 99.2 percent, and 99.9 percent efficacy respectively. Due to the high efficacy and cost effectiveness of these LARCs, they are the first recommended contraceptive for all women by the American College of Obstetricians and Gynecologists, the American Academy of Pediatrics, and the Institute of Medicine[17]. Although they are highly recommended, LARCs do have adverse effects associated with them.

The main adverse effect associated with LARCs is abnormal bleeding. In a 12-month contraceptive study previously conducted, 14 percent of Copper IUD users, 5 percent of LNG-IUS users, and 10 percent of arm implant users discontinued use because of unpredictable bleeding and/or cramping. These rates of continuation, though, are higher than those for Short Acting Reversible Contraception (referred to as SARCs), such as the oral contraceptive pills, Depo-Provera shot, and barrier methods like condoms and diaphragms[19]. While the majority of all women are continuing their contraceptive methods, LARC, SARC, or barrier, it is important to address the problems with continuation so that women can be satisfied with their health care.

Studies suggest that if women receive contraceptive counseling before they begin a LARC, they are more likely to be satisfied with that method and are more likely to continue using it. Contraceptive users may also be more willing to tolerate the adverse effects because they would have been informed of them previously [5,18].

There seems to be a gap between providers and patients where the proper information on contraceptives use and side effects are being left out. The aim of this study is to determine whether having contraceptive counseling about the potential risks, side effects, and benefits is associated with the patient satisfaction rate and choice of method in the college aged population. It will also address whether patients perceive a bias from their providers about certain contraceptive choices during their contraceptive counseling, or lack of counseling, which is a question that has not yet been explored.

2. Methods

In order to properly investigate the associations between satisfaction with contraceptive counseling, perceived bias from providers, and satisfaction and choice of current method, this cross-sectional study utilized an anonymous online survey, which was open from February 11 to March 12, 2017. The researchers obtained a convenience sample of 193 female students at a small, liberal arts university in the Southeast U.S.. Eligible participants were female college students. Recruitment took place through classroom announcements in Humanities classes of all levels. All students have to take Humanities courses, so they provided a cross-section of the female population of the university. Social media advertising was also utilized. In the announcements both in person and online, the link to the survey was given, which was through Surveymonkey.com. The study was approved by the of the University Institutional Review Board.

The survey consisted of 31 questions in six categories: demographics, healthcare identifiers, contraceptive history and use, adverse effects, and contraceptive counseling. Types of survey questions were open-ended with comment boxes, check all that apply or only one, and satisfaction scales. The satisfaction scales were ranked from very satisfied, somewhat satisfied, neutral, somewhat dissatisfied, and very dissatisfied. The survey was designed by pulling questions from previous studies of a similar nature, such as Peipert's work on "Continuation and satisfaction of reversible contraceptives," and Dehlendorf's study "Women's preferences for contraceptive counseling and decision making" [2,19].

The measures for demographics were drawn from national surveys[1]. Sexual identifiers included sexual activity and sexual orientation. The categories for sexual activity were: none, monogamous, active but without commitment, polyamorous, asexual and other. The sexual orientation categories were: heterosexual, bisexual, homosexual, asexual, and other. The healthcare identifiers asked questions on where participants received their healthcare and from whom they received their contraceptive method prescription. These categories were: OB/GYN, family provider, family planning clinic, county health department, pharmacy (i.e. Minute Clinic), and other. For contraceptive prescriptions, the same categories were used in addition to "my contraceptive method does not need a prescription." The measures

for contraceptive methods, satisfaction with them, and their adverse effects were also drawn from previous literature[2,5]. For the contraceptive counseling evaluation, measures were drawn from several previous studies assessing contraceptive counseling[2,6,14].

Data analyses included calculating frequencies of key measures and cross-tabulations of relationships of interest. A cross-tabulation was performed on how satisfaction with contraceptive counseling was associated with (1) satisfaction with primary method and (2) choice of primary method. Also, a cross-tabulation was performed on how bias (emphasis) from a provider was associated with (1) satisfaction with primary method and (2) choice of primary method. A Pearson correlation coefficient was calculated using the ordinal measures. The remaining three associations were not subject to statistical significance testing. Future research will include analyses of qualitative findings. However, illustrative quotes are included in this paper.

3. Results

3.1 Demographics

The population of this survey was predominately white. Only one respondent was uninsured, while the rest were on a family plan, 80.56%, a school plan, 12.78%, or an individual plan, 6.67% (n=181). For ethnicity/race, respondents were majority white/caucasian, 91.71%, with small percentages for black or african-american, 5.52%, Hispanic/Latino, 4.42%, Asian, 2.21%, Native American, 1.66%, and other, 1.66% (n=181). Including transfer credits, the years respondents were in university were: first year, 3.31%, second year, 30.94%, third year, 23.20%, fourth year, 35.36%, and fifth year or more, 7.18% (n=181). Table 1 summarizes key sample characteristics (see Table 1).

3.2 Sexual Identifiers

The respondents were predominantly monogamous. Participants described their sexual activity level as monogamous, 65.38%, active but without commitment, 18.13%, none, 9.89%, polyamorous, 4.40%, asexual, 1.10%, and other, 1.10% (n=182). The response pool was majority heterosexual, 68.13%, with the next largest group being bisexual, 19.23%, followed by other, 7.69%, homosexual 3.85%, and asexual 1.10% (n=182). The other category of sexual orientation included answers such as “pansexual” and “fluid” (see Table 1).

3.3 Healthcare Identifiers

Survey participants were also asked questions about where they receive their healthcare and where they receive the prescription for their contraceptive methods. Most respondents received contraceptive counseling from an OB/GYN, 39.55%. The rest of the participants receive contraceptive counseling from a Family Provider, 23.16%, a Family Planning Clinic, 9.60%, the County Health Department, 2.26%, and the Pharmacy, 2.26%. A large percentage of participants, 23.16%, answered “other” to this question and the majority in this category received their contraceptive counseling from the school health clinic (n=177). Most participants received their contraceptive method prescription from these places, as well. However, 18.99% of respondents did not need a prescription for their contraceptive method (n=179).

Table 1. Sample characteristics of the sampled population, including year in undergraduate program, insurance status, ethnicity/race, sexual orientation, and sexual activity.

Sample Characteristics	*N*	(%)
Year in undergraduate, including transfer credits (n=181)		
First year	6	3.31
Second year	56	30.94
Third year	42	23.20
Fourth year	64	35.36
Fifth year or more	13	7.18
Insurance type (n=181)		
None	1	0.55
Family plan	145	80.56
School insurance	23	12.78
Individual plan	12	6.67
Ethnicity/race (n=181)		
White or Caucasian	166	91.71
Black or African-American	10	5.52
Hispanic or Latino	8	4.42
Asian	4	2.21
Native American	3	1.66
Other	3	1.66
Sexual Orientation (n=182)		
Heterosexual	124	68.13
Asexual	2	1.10
Bisexual	35	19.23
Homosexual	7	3.85
Other	14	7.69
Sexual Activity (n=182)		
Monogamous	119	65.38
Asexual	2	1.10
Polyamorous	8	4.40
Active, but w/o commitment	33	18.13
None	18	9.89
Other	2	1.10

3.4 Contraceptive History And Use

The first question in this set asks what contraceptive methods participants currently use, allowing multiple responses in case participants use a combination of methods (i.e. condoms and oral contraceptive). The most used contraceptive methods were condoms and oral contraceptives ("the pill") both at 46.47% of participants using these. The percentage use of the remaining contraceptive methods drops greatly. Withdrawal only ("pull-out method") was 15.29%, followed by none at 12.94%, then the hormonal IUD (Skyla, Mirena) at 10%, arm implant (nexplanon) at 6.47%, injection (Depo Shot), 4.71%, emergency contraception (Plan B), 4.12%, Ring, 3.53%, copper IUD, 3.53%, and spermicide, 1.18% (n=170). Participants were then asked what their primary method is because the remaining questions about contraceptive counseling focus on the primary contraceptive method. Oral contraceptives remained the most used contraceptive method at 41.61%. "None" was the next greatest primary method at 16.15%. Condoms were used

primarily by 13.66%, hormonal IUD, 9.32%, arm implant, 6.21%, injection, 4.97%, copper IUD, 3.11%, ring, 2.48%, withdrawal only, 1.86%, and the patch 0.62% (n=161).

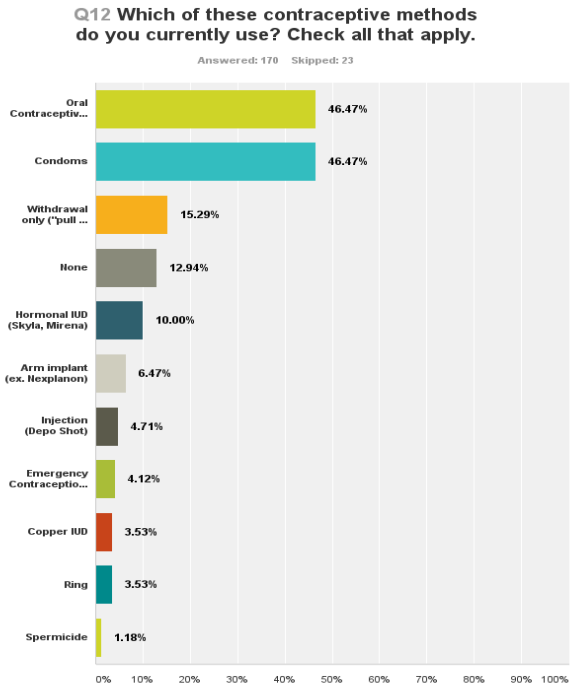

Figure 1. This chart lists the contraceptive methods participants currently use

3.5 Contraceptive Method Satisfaction

After gathering basic information about use of contraceptive methods, participants were asked how satisfied they were with their method, whether they have discontinued a method before, and if they had discontinued, which they had discontinued and why. The participants were asked to rank their satisfaction with their current method on a scale of very satisfied, somewhat satisfied, neutral, somewhat dissatisfied, and very dissatisfied. The majority of respondents were either very satisfied, 54.44%, or somewhat satisfied, 27.22%. Neutral was 13.61% of responses, while somewhat dissatisfied was 2.96% and very dissatisfied was 1.78% (n=169). Satisfaction rates of current primary method were high, but 57.65% of respondents had discontinued a method before (n=170). The most commonly discontinued method was oral contraceptives at 46.38% of participants having discontinued it. Condoms were the second most discontinued at 20.29% (n=138). Some participants chose to elaborate on why they discontinued a method. For example, one respondent said, “The pill was very hard for me to remember to take and I would often forget making it an ineffective source. I was always fearful of becoming pregnant and would frequently take pregnancy tests...I switched to a version of the pill [that] produced disabling anxiety. I had never struggled with anxiety before and felt immediately better after discontinuing.”

3.6 Adverse Effects And Contraceptive Knowledge

Participants were asked whether they had experienced adverse effects from their contraceptive method. The most common adverse effect was none (32.3%), followed by other (14.29%), dysmenorrhoea (painful period, cramping) (13.04%), emotional instability (11.18%), change of weight (8.07%), headache (6.38%), increased bleeding by volume (3.73%), vaginitis (2.48%), and urinary tract infections (2.48%). No adverse effect was overwhelmingly more prominent than another, but 67.7% of respondents had at least one adverse effect of their primary contraceptive method (n=161). When asked how participants had found out about these side or adverse effects, 47.06% learned from their health provider, while 20.26% found out about these side or adverse effects by an internet search. The remaining participants learned about these side or adverse effects from peers/family (7.19%), the Rx package

instructions/warnings (6.54%), other (2.61%), and 16.54% of participants did not know about these side or adverse effects (n=153).

3.7 Contraceptive Counseling

In the beginning of this section of questions, contraceptive counseling is defined as "the discussion you and your provider have when discussing contraceptive choices." The first question asks who initiated the conversation about their choice of contraceptive method. For 70.75% of respondents, they initiated the discussion. The provider initiated the conversation in 21.77% of respondents, while 7.48% of respondents did not know/remember (n=157).

The survey then asked what contraceptive methods providers discussed, asking participants to check all that apply. Oral contraceptives were the most discussed with 76.67% of respondents having their provider discuss this method with them. The remainder were as follows: hormonal IUD, 40%, copper IUD, 35.33%, condoms, 28%, injection, 24%, arm implant, 22%, ring, 13.33%, patch, 10%, none, 8%, emergency contraception, 4.67%, diaphragm, 3.33%, withdrawal only, 2%, and spermicide, 1.33% (n=150).

When asked whether a provider had bias (emphasis) towards a particular method, 70.86% participants reported their provider emphasizing a particular method. Oral contraceptives were the most emphasized (35.10%). Hormonal IUD (12.58%), arm implant (7.95%), copper IUD (7.28%), condoms (2.65%), ring (2.65%), injection (1.99%), and emergency contraception (0.66%) were also emphasized. 29.14% of respondents did not perceive any bias (emphasize) from their provider (n=151).

The survey also asked how satisfied participants were with the discussion with their provider. Where n=146, respondents ranked their satisfaction by very satisfied (42.47%), somewhat satisfied (30.14%), neutral (18.49%), somewhat dissatisfied (5.48%), or very dissatisfied (3.42%)(n=146). Fifty-eight point eleven percent of participants said their provider impacted their contraceptive decision, while 41.89% did not report the provider impacting their decision(n=148).

Some respondents further elaborated on their experience positively, such as this respondent, "I have only had good experiences with Planned Parenthood. I felt I was given all the information for the method I was seeking (copper IUD). We went over my history with the other methods I have tried. They answered all of my questions and were sympathetic." Another participant noted her experience was "honest and unbiased."

Others explained why they were dissatisfied with their contraceptive counseling. "When I explained to my provider I didn't feel the need to take an oral contraceptive, as I am in a same sex relationship and we just stick with condoms, she made me feel wrong and disgusting." Another participant explained her experience as dissatisfactory, "I went in for something completely unrelated to birth control. It was the 3rd time I had gone in for an unrelated thing and had birth control pushed on me after 5 minutes of discussing the main issue...so I finally gave in and tried a hormonal birth control."

Respondents also reported having ideas about their contraceptive method before discussing with their provider. In a question asking which sources informed their contraceptive decision where n=150 and participants could check more than one, 46.67% had their decision impacted by contraceptive counseling with a provider, while 59.33% were impacted by their own research, 23.33% by discussions with their peers, and 10% had other influences, such as "discussion with my partner" (n=150).

3.8 Associations With Satisfaction Of Contraceptive Counseling

Of participants who were "very satisfied" with their contraceptive counseling, 93.55% of participants were either "very satisfied" or "somewhat satisfied" with their current contraceptive method (n=146) (see Figure 2). The Pearson correlation coefficient was 0.3892 ($p<0.001$). Participants who were either "very satisfied" or "somewhat satisfied" with their contraceptive counseling were more likely to be using a hormonal method (73%) instead of a barrier method (27%) (n=137).

Some participants report how contraceptive counseling from their provider made them feel more confident with the method they chose, "[the provider] made me feel a little more comfortable, and I felt like I knew what I was getting into." Another participant shared, "I went in knowing I wanted an IUD and but was unsure of whether a hormonal one would be a good fit, and which on. My healthcare provider helped me determine the best fit for me."

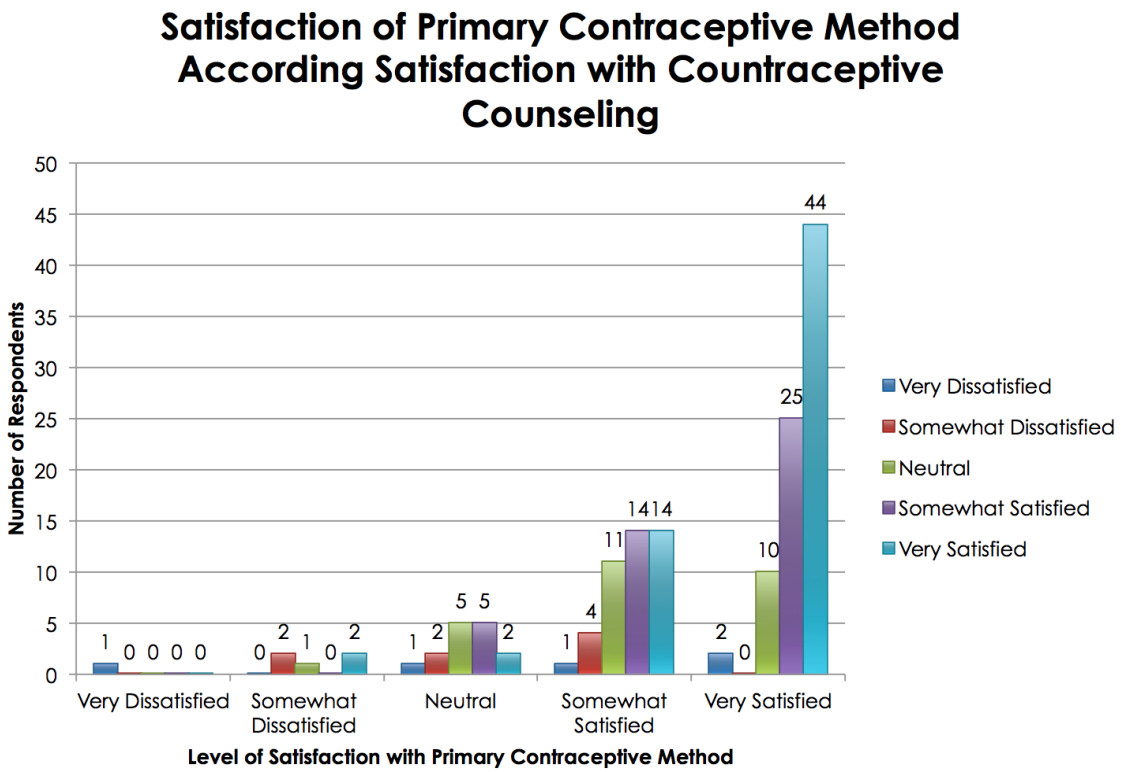

Figure 2. Association between satisfaction of current primary contraceptive method (x-axis) and satisfaction of contraceptive counseling.

3.9 Associations With Perceived Bias From Provider

Another aim of this study was to determine whether participants received bias from their provider during contraceptive counseling and if so, which methods had the highest rates of bias. The question which measures for bias was "Did your provider emphasize any particular method? If so, which one primarily?" The participants could select "none" or any of the contraceptive options discussed previously in this paper. This question was cross-tabulated with choice and satisfaction of current method. These measures were assessed using multiple-choice questions on the survey that were cross-tabulated during analysis through the standards on surveymonkey.com.

Of the participants who did not perceive bias from their provider, 88.64% of participants were either "very satisfied" or "somewhat satisfied" with their current method. If oral contraceptives were emphasized by the provider, 62.5% of participants chose oral contraceptives as their contraceptive method. If a hormonal IUD was emphasized, 52.6% of participants chose it as a current method. When the arm implant was emphasized, 36.36% chose it for their primary method.

This data suggests that patients react better when there is no bias from a provider. It also shows that emphasizing a particular method can cause some patients to choose a given method, but the association between emphasis on a method and choice of that method is not significant. Except for oral contraceptives and hormonal IUDs, if a method was emphasized, it was more likely that the patient would not select the emphasized method.

Although a full analysis of the qualitative data has not yet been completed, comments from respondents suggest that there is a distrust from providers if they emphasize a particular method. For example, "when I asked about the more severe side effects, instead of explaining them to me, my doctor just said that they were very rare. It made me feel like she disregarded my question in order to sell me on the idea of getting a copper IUD." Another participant shared, "She seemed a little pushy, but I stood my ground."

	Very Satisfied % n	Somewhat Satisfied % n	Neutral % n	Somewhat Dissatisfied n %	Very dissatisfied n %	Total n %
None	25 65.91	22.73 10	9.09 4	2.27 1	0 0	29.14 44
Oral Contraceptives	50.94 27	30.19 16	15.09 8	3.77 2	0 0	35.10 53
Copper IUD	27.27 3	54.55 6	9.09 1	9.09 1	0 0	7.28 11
Emergency Contraceptive	100 1	0 0	0 0	0 0	0 0	0.66 1
Injection	33.1 1	33.33 1	0 0	33.33 1	0 0	1.99 3
Condoms	75.00 3	25.00 1	0 0	0 0	0 0	2.65 4
Ring	50 2	0 0	0 0	0 0	0 0	2.65 4
Hormonal IUD	57.89 11	21.05 4	15.79 3	0 0	5.26 1	12.58 19

Figure 3: This chart shows the association between bias (emphasize) towards a contraceptive method from a provider (left) against satisfaction of current method (top).

4. Discussion

This study found that the quality of contraceptive counseling including how satisfied a patient was and whether they perceive bias from their provider is important in the choice and satisfaction of a patient's current contraceptive method. The current climate around contraceptive counseling appears to be primarily concerned with keeping women from getting pregnant through a focus on hormonal methods instead of listening to the individual needs of the patient[9,14].

The study findings suggest that bias towards particular methods can even increase the likelihood for a patient to not choose the emphasized method. Emphasis on oral contraceptives and hormonal IUDs did positively correlate with a participant choosing these methods, but still only 62.5% and 52.6% respectively chose these methods if they were emphasized. For the remainder of the methods, having emphasis on them did not increase the rate they were chosen by more than 37% (n=151). Furthermore, if patients did not perceive bias from their provider, they were more likely to be "very satisfied" or "somewhat satisfied" by their method. This finding suggests that women prefer more comprehensive contraceptive counseling[14]. Comprehensive contraceptive counseling entails having a patient-centered contraceptive discussion that covers all types of methods in an objective manner[16]. Other studies have determined that motivational interviewing as a form of contraceptive counseling is also effective[20].

Participants reported that not all contraceptive methods were equally discussed during contraceptive counseling. For example, only 28% of providers discussed condoms and 4.67% discussed emergency contraception. With the emphasis of contraceptive counseling being primarily on efficacy, it appears that practicing safe sex to prevent STIs is being emphasized less. Emergency contraception was not discussed in many contraceptive counseling sessions in this study. Emergency contraception (i.e. Plan B) is available now without a prescription, but it is important for providers to be sharing information about its use and side effects to patients so it can be used correctly[11].

The implications of this research include asking the medical community to foster interpersonal communication skills in providers, as the quality of the contraceptive counseling individuals received positively impacted how satisfied they were with their current method. Additionally, another study that looked into women's preferences on contraceptive counseling found that women wanted "intimate, friend-like relationships with their providers and also wanted comprehensive information about their options"[2].

Additionally, the researchers found few participants using LARCs. Of a sample where n=161, 30 participants or 18.63% were using either the arm implant, copper IUD, or hormonal IUD. These methods are proven to be the most effective contraceptive method, but still a smaller percentage of the population uses LARCs over SARCs[3,5,8]. Other researchers have pointed to a lack of access and education on these methods as the reason for their popularity[10]. Further research may look into why LARCs are not used frequently even in insured populations, such as the population in this study.

The researchers also believe this study shows that there should be more research investigating why LARCs are not widely used in insured communities. Lastly, the author expresses concern at the lack of discussion of condoms from health care providers in this study. She notes that while LARCs have decreased unintended pregnancy rates, providers should still remember to cover the importance of practicing safe sex.

Potential limitations to this study include lack of diverse population including both ethnically and insured status, size of participant pool, and lack of controlling for other factors that influence contraceptive method choice and satisfaction due to the limited time restraints for this study. Also, the nature of both a cross-sectional study and self-reported data call into question the time and order of the contraceptive counseling where a participant chose their current method. Inherent bias also exists because this was a convenience sampling so the population was not chosen at random and therefore may not be indicative of college-aged women as a whole. Strengths of this study include the mix of qualitative and quantitative data, as well as the large amount of questions which gathered basic contraceptive use statistics. Further research is needed to examine other factors which influence satisfaction and choice of contraceptive method.

This research study continues the conversation around provider-patient relationships and shows the importance in having an objective provider who is willing to understand the patient as an individual. The implications of this research include asking the medical community to foster interpersonal communication skills in providers, as the quality of the contraceptive counseling individuals received positively impacted how satisfied they were with their current method. Additionally, another study that looked into women's preferences on contraceptive counseling found that women wanted "intimate, friend-like relationships with their providers and also wanted comprehensive information about their options"[2].

The researchers also believe this study shows that there should be more research investigating why LARCs are not widely used in insured communities. Lastly, the author expresses concern at the lack of discussion of condoms from health care providers in this study. She notes that while LARCs have decreased unintended pregnancy rates, providers should still remember to cover the importance of practicing safe sex.

5. Conclusion

The survey results suggest that more comprehensive contraceptive counseling is associated with higher satisfaction of the chosen method to decrease unplanned pregnancies and adverse effects. These findings indicate that if providers give patients unbiased, comprehensive counseling, then users of contraceptives will feel more confident in and satisfied with the method they are using.

6. Acknowledgements

The author wishes to express deep gratitude to the Health and Wellness Promotion Department at the University of North Carolina Asheville for providing her with compassionate professors, a diverse world view, and an invaluable education. The author also wishes to thank faculty members Ellen Bailey and Ameena Batada for their guidance and dedication to this research because without these two great mentors, this research would not have been possible. Additionally, she thanks her friends and family for their support, in particular Dillon and Marina for their unwavering confidence in her abilities to accomplish this goal.

7. Cite References

1. Bryant, K. D., DNP. (2009). Contraceptive use and attitudes among female college students. *ABNF Journal, 20*(1).

2. Dehlendorf, C., Levy, K., Kelley, A., Grumbach, K., & Steinauer, J. (2013). Women's preferences for contraceptive counseling and decision making. *Contraception, 88*(2), 250-256. doi:10.1016/j.contraception.2012.10.012

3. Diedrich, J. T., Desai, S., Zhao, Q., Secura, G., Madden, T., & Peipert, J. F. (2015). Association of short-term bleeding and cramping patterns with long-acting reversible contraceptive method satisfaction. *American Journal of Obstetrics and Gynecology, 212*(1). doi:10.1016/j.ajog.2014.07.025

4. Finer, L. B., & Zolna, M. R. (2016). Declines in unintended pregnancy in the United States, 2008-2011. *The New England Journal of Medicine,* 843-852.

5. Funk, S., Miller, M. M., Mishell, D. R., Archer, D. F., Poindexter, A., Schmidt, J., & Zampaglione, E. (2005). Safety and efficacy of Implanon, a single-rod implantable contraceptive containing etonogestrel. *Contraception, 71*(5), 319-326. doi:10.1016/j.contraception.2004.11.007

6. Gibbs, S. E., Rocca, C. H., Bednarek, P., Thompson, K. M., Darney, P. D., & Harper, C. C. (2016). Long-Acting Reversible Contraception Counseling and Use for Older Adolescents and Nulliparous Women. *Journal of Adolescent Health, 59*(6), 703-709. doi:10.1016/j.jadohealth.2016.07.018

7. Gomez, A. M., Fuentes, L., & Allina, A. (2014). Women or LARC First? Reproductive Autonomy And the Promotion of Long-Acting Reversible Contraceptive Methods. *Perspectives on Sexual and Reproductive Health, 46*(3), 171-175. doi:10.1363/46e1614

8. Hall, K. S., Ela, E., Zochowski, M. K., Caldwell, A., Moniz, M., Mcandrew, L., . . . Ernst, S. (2016). "I don't know enough to feel comfortable using them:" Women's knowledge of and perceived barriers to long-acting reversible contraceptives on a college campus. *Contraception, 93*(6), 556-564. doi:10.1016/j.contraception.2016.02.007

9. Higgins, J. A. (2014). Celebration meets caution: LARC's boons, potential busts, and the benefits of a reproductive justice approach. *Contraception, 89*(4), 237-241. doi:10.1016/j.contraception.2014.01.027

10. Hubacher, D., Spector, H., Monteith, C., Chen, P., & Hart, C. (2015). Rationale and enrollment results for a partially randomized patient preference trial to compare continuation rates of short-acting and long-acting reversible contraception. *Contraception, 91*(3), 185-192. doi:10.1016/j.contraception.2014.11.006

11. Johnson, Judith A., Erin D. Williams, and Vanessa K. Burrows. Emergency Contraception: Plan B. Rep. Congressional Research Services: The Library of Congress., 2006. *CRS Report for Congress.* Web.

12. Jones, J., Mosher, W., & Daniels, K. (2012). Current contraceptive use in the United States, 2006–2010, and changes in patterns of use since 1995. *National Center for Health Statistics,* (60).

13. Kost, K., & Henshaw, S. (2014). U.S. teenage pregnancies, births and abortions, 2010: National and state trends by age, race and ethnicity. *Guttmacher Institute*.

14. Lee, J. K., Parisi, S. M., Akers, A. Y., Borrerro, S., & Schwarz, E. B. (2011). The Impact of Contraceptive Counseling in Primary Care on Contraceptive Use. *Journal of General Internal Medicine, 26*(7), 731-736. doi:10.1007/s11606-011-1647-3

15. Logan, C., Holcombe, E., Manlove, J., & Ryan, S. (2007). The consequences of unintended childbearing. *Child Trends*.

16. Madden, T., Mullersman, J. L., Omvig, K. J., Secura, G. M., & Peipert, J. F. (2013). Structured contraceptive counseling provided by the Contraceptive CHOICE Project. *Contraception, 88*(2), 243-249. doi:10.1016/j.contraception.2012.07.015

17. Murphy, M. K., Stoffel, C., Nolan, M., & Haider, S. (2016). Interdependent Barriers to Providing Adolescents with Long-Acting Reversible Contraception: Qualitative Insights from Providers. *Journal of Pediatric and Adolescent Gynecology, 29*(5), 436-442. doi:10.1016/j.jpag.2016.01.125

18. Parks, C., & Peipert, J. F. (2016). Eliminating health disparities in unintended pregnancy with long-acting reversible contraception (LARC). *American Journal of Obstetrics and Gynecology, 214*(6), 681-688. doi:10.1016/j.ajog.2016.02.017

19. Peipert, J. F., Zhao, Q., Allsworth, J. E., Petrosky, E., Madden, T., Eisenberg, D., & Secura, G. (2011). Continuation and Satisfaction of Reversible Contraception. *Obstetrics & Gynecology, 117*(5), 1105-1113. doi:10.1097/aog.0b013e31821188ad

20. Petersen, R., Payne, P., Albright, J., Holland, H., Cabral, R., & Curtis, K. M. (2004). Applying motivational interviewing to contraceptive counseling: ESP for clinicians. *Contraception, 69*(3), 213-217. doi:10.1016/j.contraception.2003.10.007

21. Steiner, M. J., Trussell, J., & Johnson, S. (2007). Communicating contraceptive effectiveness: An updated counseling chart. *American Journal of Obstetrics and Gynecology, 197*(1), 118. doi:10.1016/j.ajog.2007.03.049