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**Original Research Article**

# The satisfaction of contraception in today's female university students

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## ABSTRACT

**Background:** The misuse and discontinuation of contraception is becoming common. This leads to an increase of unintended sexually transmitted infections (STIs) or pregnancies. Literature showed negative side effects, relationships and insufficient healthcare access can decrease satisfaction leading to incorrect use or cessation of contraception.
**Methods:** One hundred and one female university students were given an electronic survey to explore their feelings and opinions towards contraception.
**Results:** Results showed there were several correlations between method of choice, pregnancy concerns, overall satisfaction, and the strengths and limitations of contraceptive use. Qualitative data showed opposing views on the strengths and limitations of providers and health insurance companies.
**Conclusions:** The findings based on both qualitative and quantitative data showed most women endure negative experiences and side effects of contraception for the prevention of pregnancy. Future research should focus on increasing satisfaction by enhanced counselling efforts and decreasing the negative effects experienced.

**Keywords:** Contraception, University students, Contraceptive satisfaction, Contraceptive dissatisfaction

## INTRODUCTION

Contraception, otherwise known as birth control (BC), is known for its main goal of preventing pregnancy. For many women, contraceptive use is started during their high school years and extend into their early adult life. For some, it is used for their entire reproductive life. Each contraceptive method is unique in its abilities, some prevent STIs, others use hormones to stop or decrease ovulation. Most women change their contraceptive of choice multiple times throughout their life to find their right method. Reasons to change methods frequently are caused by negative side effects or interference with their life. Because it can be difficult to find the right method, women will often discontinue or misuse contraception. This leads to unexpected outcomes such as pregnancy or STIs. Realistically, several factors play a role in the use, continuation, and satisfaction of contraception. This can include education level, socioeconomic class, culture, societal pressure, side effects, sexual functioning and sexual experience.

In 2011, 45% of all pregnancies in the United States were unintended. Between 15-19 years old, 75% of all pregnancies were unintended.[1] According to Daniels and Abma from a US nation-wide survey, the most common birth control methods were female sterilization (18.1%), oral contraception (14.0%), long-acting contraceptives (10.4%) and the male condom (8.4%).[2] Of the women between ages of 15-49, only 65.3% of these women were using contraception between 2017 and 2019. Meaning, roughly 35% of all women between 15-49 were not using any method of contraception. Current condom use was lowest in the 15-19 age group (5.1%). Of women (15-44) who used a condom in the past month, nearly a third (29.6%) reported having a problem with condoms, some said it broke or fell off (6.5%) and some only used it for

part of the time (25.8%). Few reported they experienced both the breaking and loss of a condom (3%).[3]

According to the CDC, in 2019, there was nearly 2.6 million new sexually transmitted disease (STD) cases in the United States.[4] In the same year, the majority (55.4%) of STDs diagnosed were among adolescents and teenagers between 15-24 years old.[5]

Nineteen percent of female teenagers have used emergency contraception according to the data from the 2015-2017 National survey on family growth.[6] Emergency contraception is the fourth most common form of contraception, immediately behind condom use (97%), withdrawal (65%) and the pill (53%). Emergency contraception was also equally used at the same rate as the Depo-Provera injection (19%). The large number of women using emergency contraception is alarming, as it ranks higher in use compared to effective forms of contraception.

The use of contraception decreases the risk of unintended pregnancy and becoming infected with an STI. Many factors such as age and education level play a factor in the type of contraception used and if it is used as prescribed. For many women, perfect use is not possible, leaving a large possibility of complication. Satisfaction and use of contraception are closely related.

The use of contraception is directly related to a woman's satisfaction towards it. Negative side effects such as weight gain, mood changes and increased discomfort are common reasons for dissatisfaction. Influential factors for satisfaction and use include effectiveness, cost and ease of access.[7-11] Relationships both romantic and friends/family have an impact on whether a woman would use contraception. The use of contraception also influenced romantic relationships and sexual enjoyment.[12,13] Women value when their method of contraception did not affect their sexual activity whether may be spontaneity, flow or pleasure.[14] Odwe and Stevens found women often take better to advice from friends or family rather than their healthcare provider.[15,16] Odwe discovered partner perception also influenced whether a woman would continue using their current method.[15] Opinions from those close by are known to have a large impact on the use and satisfaction of contraception.

Whether or not providers are meeting patient needs is especially important for contraception satisfaction. There is conflicting literature on whether reproductive health access is an issue or not. Marshall reported 92% of their participants received a reproductive health care visit in the past year.[11] Bersamin et al reported only 50% of their participants had an appointment in the past year.[17] Uncertainty also lies whether the healthcare women are accessing are adequate to fit their needs. More providers often ask about risky sexual behaviours and the need for STI/HIV testing rather than if the patient is satisfied with their current method of contraception.[3,16,18] Whether tools or additional counselling is offered, it was found when patients left their appointment satisfied, the likelihood of correct use increased.[19,20]

There needs to be more advances in the contraception available so satisfaction and use will increase. The current reproductive health visits are often not adequate to take care of a woman's need to be satisfied with their contraception. More research needs to be done to find specific ways to solve these issues.

## METHODS

The purpose of this study was to evaluate and analyze how female college students perceive their experience with contraception. This study was conducted from October to November 2021 at Westfield State University, a public university located in Westfield, Massachusetts. The survey used to collect data was based off the Ortho Birth Control Satisfaction Assessment Tool (Ortho BC-SAT) created by Colwell et al.[21] The Ortho BC-SAT showed reliability and validity. The assessment was compared to the mental health index-5 (MHI-5) and the short form-12 version 2.0 (SF-12v2) showing criterion validity. Face and content validity were tested since 6 physicians reviewed the assessment before testing it. The assessment was also tested for test-retest reliability, showing an intraclass correlation coefficient of 0.79-0.89 indicating good reliability.[21] There were demographical and qualitative questions added in addition to the survey. Another change was made to include all methods of contraception available and the ability to select multiple methods unlike the Ortho BC-SAT. The original assessment only tested for oral contraception, the Depo-Provera shot, the patch and the vaginal ring. The created survey was sent to the institutional research board and received approval to ensure ethical conduct of research. For this study, the assessment was converted to a Microsoft form which was later dispersed. The survey was distributed by email and QR codes, the links enabled participants to fill out the survey anonymously. The surveys were sent to a wide variety of students including those in an honours program, health professional club and several health science courses at Westfield State University. Scores for bothersome side effects, positive abilities of BC, positive statements and negative statements towards BC were combined to make analyzation straightforward. The quantitative results were analysed by SPSS statistics and the qualitative results were analysed by the authors using the grounded theory. There were 104 total responses, 3 responses were determined to be outliers because two identified as males and one as non-binary. None of the outliers used any form of contraception. Inclusion criteria consist of being female and college aged.

## RESULTS

The goal of the survey and its responses was to find where the pitfall occurs in relation to satisfaction. It is already known side effects, relationships and healthcare influence

satisfaction. Gathering data from the patient's perspective is helpful in determining what society and healthcare can do better.

**Table 1: Demographical data collected from the participants.**

| Characteristics of the participants | N |
|---|---|
| **Ethnicity** | |
| Black or African American | 6 |
| Hispanic or Latino | 6 |
| Other | 1 |
| White | 88 |
| **Relationship status** | |
| Involved | 62 |
| Uninvolved | 39 |
| **Overall satisfaction** | |
| Extremely satisfied | 19 |
| Very satisfied | 32 |
| Somewhat satisfied | 28 |
| Neither | 11 |
| Somewhat dissatisfied | 2 |
| Very dissatisfied | 0 |
| Extremely dissatisfied | 2 |
| **Methods** | |
| Oral contraception | 64 |
| Male condom | 27 |
| Withdrawal | 13 |
| Do not use any form | 13 |
| Implant | 10 |
| Hormonal IUD | 8 |
| Injection | 4 |
| Fertility awareness method | 3 |
| Patch | 1 |

Most of the participants identified as white (87.1%) and ranged in age from 18-33 years old. Over half identified as being involved in a relationship (61.4%). Sixty-four (63.4%) participants indicated they use oral contraception either through sole or dual use (Table 1).

Considering research question 1, multiple variables correlated with overall satisfaction. The higher the education a participant had, the lower the overall satisfaction (r=0.240; p=0.020). But more convenience and a higher overall satisfaction correlated significantly (r=0.244; p=0.018). Women who agreed to the positive statements also indicated more overall satisfaction (r=0.319; p=0.002). This was shown again with the negative statements, the more they agreed the more dissatisfied the participants were (r=-0.450; p=0.000). Likewise, the more satisfied a participant was, the more likely they would recommend it to other (r=0.708; p=0.000) and were more willing to continue (r=0.643; p=0.010) (Table 2).

Regarding research question 2, there were many relationships indicated to be important. Ethnicity was correlated with contraceptive method of choice (r=0.274; p=0.006), people of color often chose a more effective BC method. Pregnancy concern and race (r=0.277; p=0.025) had a relationship in terms of white participants were more concerned about getting pregnant.

**Table 2: Significant correlations found (p<0.05).**

| Variable 1 | Variable 2 | R value | P value |
|---|---|---|---|
| Ethnicity | BC method | 0.274 | 0.006 |
| Ethnicity | Pregnancy concern | 0.277 | 0.025 |
| Ethnicity | (+) attributes | 0.233 | 0.020 |
| Ethnicity | (-) statements | 0.290 | 0.003 |
| Education | Overall Satisfaction | 0.240 | 0.020 |
| BC method | Ease in following Rx | 0.363 | 0.000 |
| BC method | Forgetfulness | 0.280 | 0.005 |
| BC method | (+) abilities | 0.364 | 0.000 |
| BC method | (+) statements | 0.621 | 0.000 |
| BC method | (-) statements | 0.487 | 0.000 |
| Convenience | Ease in following Rx | 0.354 | 0.000 |
| Ease in following Rx | Pregnancy Concern | -0.235 | 0.020 |
| Pregnancy concern | Side effect score | 0.200 | 0.048 |
| Pregnancy concern | (+) abilities | 0.223 | 0.027 |
| Pregnancy concern | (+) statements | 0.423 | 0.000 |
| Pregnancy concern | (-) statements | 0.344 | 0.001 |
| Pregnancy concern | Willingness to cont. | 0.275 | 0.007 |
| (+) abilities | (+) statements | 0.576 | 0.000 |
| (+) abilities | (-) statements | 0.371 | 0.000 |
| (+) statements | (-) statements | 0.457 | 0.000 |
| (+) statements | Overall satisfaction | 0.319 | 0.002 |
| (-) statements | Overall satisfaction | -0.450 | 0.000 |
| Recommend to others | Overall satisfaction | 0.708 | 0.000 |
| Willingness to cont. | Overall satisfaction | 0.642 | 0.010 |

The positive attributes of BC (lessening or lightening a period) were rated highly among people of color and poorly among white participants (r=0.233; p=0.020). The white participants disagreed more with the negative statements and the participants of color agreed more with such negative statements (r=0.290; p=0.003). Method of choice correlated with ease in following the prescription as directed (r=0.363; p=0.000) and forgetfulness (r=0.280; p=0.005), the less effective the method, the harder it was

for them to use the method correctly. Participants using a lesser effective method believed their method did not positively affect their period (r=0.364; p=0.000). Participants using a highly effective method were more likely to agree with both the positive (r=0.621; p=0.000) and negative (r=0.487; p=0.000) statements. The harder it was for a participant to follow their prescription the more concerned they were with getting pregnant (r=-0.235; p=0.020). The more concerned a participant was about getting pregnant the more bothered they were by the side effects (r=0.200; p=0.048) and the less their method helped their period (r=0.233; p=0.027). Logically, the more concerned a participant is about getting pregnant the more willing they were to continue their current method (r=0.275; p=0.007) and disagree to both the positive (r=0.423; p=0.000) and negative (r=0.344; p=0.001) statements towards BC. The worse a participant rated the positive abilities of BC, the more likely they were to disagree to the positive statements (r=0.576; p=0.000) and negative (r=0.457; p=0.000). Interesting there was a correlation between the positive and negative statements about BC (r=0.457; p=0.000) (Table 2).

The qualitative data from the survey showed the main reason young women started contraception was to be able to better regulate their periods. One participant had an interesting response to the question: "*Is there anything you would like to add regarding your experience with contraception?"* Participant 43 responded, *"I tried 5 different brands and each one gave me a new list of issues that I dealt with because I felt like it was the only contraception option. Nexaplanon has been so good for me, but I deal with people telling me all the time it ruined them, I'll hate it when I take it out, and that I'm going to gain hundreds of pounds. There's so much stigma"* (participant 43). Interestingly the question asking: "*Is there anything you would like to add regarding your healthcare provider (Doctor, PA, NP)?"* created a wide variety of responses. Some participants described their provider as helpful, understanding and comforting. The similar participants thought their provider did a good job at explaining their options and helping them choose the right birth control from them. While others commented *"My doctor insists that I should be on it even after I've said no."* (participant 24) and *"I wish providers would warn patients of side effects when first prescribing it"* (participant 92). Two participants wrote in their response about they experience with health insurance. One mentioned they like their current insurance because they offer birth control completely for free. The other mentioned, "*My insurance is rejecting the fact that I can only take a specific pill. I have been lucky and they give (it to) me but I worry about the time. I will be forced onto a different pill that does not work for me"* (participant 83).

## DISCUSSION

The significance of correlations in response to research question 1 were valuable because they aligned with the literature and showed how satisfaction can be increased.[11,22]

The correlation between ethnicity and contraceptive choice showed women of color often chose a more effective form of birth control. The significance of ethnicity and pregnancy concern showed a different trend, explaining women of color were less concerned about getting pregnant. White women often rated their contraceptive's ability to help periods poorly. Women of color had low scores on the negative statements towards birth control, the lower the score the more the participant agreed to the statements. Hinting to those of color felt their contraception interfered with their life. Similarly, there was a correlation between relationship status and negative statement score, revealing participants not in a relationship often agreed to the negative statements more.

It was discovered when women used a more effective form of birth control, they often felt it was easy for them to follow their prescription as directed. This was likely because the more effective forms of birth control were often implants and required minimal effort. The correlation between forgetfulness and method of choice was similar because the various types of implants were not susceptible to being forgotten about daily. Similarly, method of choice and positive attributes of contraception were significant because the more effective the form of contraception, the better score in reducing menstrual pain, lightening menstrual flow and reducing the number of menstrual period days. More effective forms of BC correlated with both the positive and negative statements. Indicating women using highly effective forms of BC experience interference with life in both negative and positive ways.

The ease in following the prescription correlated significantly with the concern of getting pregnant but in the opposite direction. This implied the larger the concern of getting pregnant, the harder the participant felt to be able to follow the prescription as directed. The higher the concern of getting pregnant, the harder it was for the participant to use their BC as directed. This made sense because if a woman was concerned about getting pregnant, they were more likely to adapt their lifestyle to prevent pregnancy.

The concern of getting pregnant the willingness to continue BC was logical because the more concerned of getting pregnant the more likely a person would be to prevent such pregnancy. Interestingly, the more concerned a participant was about getting pregnant, the more bothered they were by the side effect of contraception. Similarly, the more concern a person had about getting pregnant, the more they disagreed with both the positive and negative statements. Explanation such for such results were currently unknown.

The higher score with the positive statements implied more disagreement and a high score for BC abilities signified poor contraceptive performance in the participant's opinion. Meaning the more a person disagreed, the more likely they were to also disagree to whether the use of BC helped their menstrual period. The positive attributes of BC also correlated with the negative statements about BC. Alluding to the better a participant thought BC helped their menstrual period, the more likely they were to agree their BC interfered with their life. This could possibly show participants continue to use contraception for its helpfulness in controlling the menstrual cycle even though it restricts their daily life. With the negative and positive statements, a smaller the score means it was more likely a participant would agree to such statements. Meaning participants often agreed to both the positive and negative statements at the same rate but they also disagree at the same rate. Showing women continued to use BC due to the benefits even though it interfered with their life.

Our results were similar to those of previous research. Like Gomez et al and Marshall our participants valued how effective their BC was at preventing pregnancy and whether it was easy for them to use their form of BC as directed (for example, using implanted devices which require little to no maintenance).[10,11] Lessard investigated satisfaction and studied almost the same amount of various contraceptive types. Those participants similarly valued a lack of side effects, ease to access and use and high effectiveness.[9]

The variety of responses explained both the effectiveness and ineffectiveness of reproductive healthcare. Some have excellent experiences with both their providers and insurances while others struggled being heard. The quote from participant 44 brought to light how contraceptive use was unique because multiple women can be using the same method but have a variety of experiences. Results showed how society has a major influence on how people perceive certain method. Odwe and Stevens mention many of their participants better took to advice from their friends and family rather than their provider.[15,16]

The limitations for this study mainly stem from the sample group. There was a lack of diversity from the participants. Thirteen out of the 101 participants identified as a person of color (Table 1). The lack of diversity with ethnicity and major of choice could have led to an inaccurate depiction of young women. Although the number of participants was acceptable and far better than the original goal of 40 participants, a larger sample size with more diversity would create an even better understanding. The survey used did not investigate how relationships affected satisfaction. Time constraint and lack of resources were other important limitations to note. This study was completed in 3-months which did not allow for the upmost in methodical detail. Other limitations included only sampling students from a single university.

## CONCLUSION

Based on the responses there are changes needed to make women more satisfied. This includes finding way to lessen the side effects of BC while maintaining the effectiveness or create or adapt current forms of BC to better fit the needs of women. Other goals include developing ways for healthcare to better serve this specific but large, population. This could consist of better counseling practices and increasing health insurance coverage. Solving these issues would increase contraceptive satisfaction and successfully decrease unintended pregnancies and STIs. Higher satisfaction rates would improve health for both women and their families.

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