



Contraception Use and Counseling at a Student-Run Free Clinic

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Published: June 1, 2022

Abstract

Background: In the United States, about half of all pregnancies are unplanned. Unplanned pregnancy carries increased risks to patient and fetus and is increased independently by both poverty and being a racial or ethnic minority. The purpose of this study was to examine the percentage and types of contraceptives used by patients at the student-run Building Relationships and Initiatives Dedicated to Gaining Equality (BRIDGE) Healthcare Clinic and determine if clinic staff provided appropriate annual contraceptive counseling.

Methods: A retrospective chart review was performed for all active BRIDGE patients that were female and aged 18-60 between 2015 and 2020. Information collected included demographics, obstetric history, tobacco use, medical history of deep vein thrombosis (DVT) or hypertension, and contraception use.

Results: Of 145 patients reviewed, 77.2% used contraception at some point during the study period. Surgical contraception was the most common form used. No patients with a documented history of DVT or tobacco use used estrogen-containing contraception during the study period. One patient out of the twenty with documented hypertension used an estrogen-containing form of contraception for one year.

Conclusions: Overall, our clinic counseled the majority of patients of child-bearing age on contraception use. Contraception use in our population is above the national average and is appropriately prescribed.

Introduction

Background

For decades, about half of pregnancies in the United States (US) have been unplanned.¹ The unplanned nature of these pregnancies carries an associated risk for both mother and child and accounts for increased risk of spontaneous abortion, low birthweight, infertility, maternal physical abuse, and maternal death.² While these rates have gradually decreased³ due to increased use and methods of contraception, ethnic minorities and those below the federal poverty line have

higher unintended pregnancy rates than their white, higher-income counterparts.⁴ Census data shows that access to contraception by age 20 significantly reduces the probability that a woman is subsequently in poverty, even when controlling for factors such as household composition, completed education, and employment status.⁵ However, patients who are in ethnic minority groups or living in poverty are at increased risk of contraceptive nonuse or taking contraceptives incorrectly or inconsistently.² Because of this, contraception counseling is of particular importance in clinics that serve vulnerable populations.

Contraceptive services and education are essential components of women's healthcare. According to the World Health Organization, approximately 50.0% of pregnancies in the US are unplanned, and about 48.0% of reproductive-age women have experienced at least one unintended pregnancy.¹ Despite the need for contraceptive care, up to one third of US women who attempted to obtain contraceptive prescriptions report access barriers such as cost of services, limited access to insurance, transportation barriers, and lack of awareness of services.⁷

The 2017 National Survey of Family Growth revealed a contraception use rate of 64.9% among reproductive-age women. Rates of contraception were lowest among women aged 15-19 (37.2%), and highest among women aged 40-49 (73.7%). non-Hispanic White women were more likely to use contraception than their Hispanic counterparts, with rates of use at 67.0% and 64.0%, respectively. Of note, this study did not distinguish between insured and uninsured patients. Another study focusing on subgroup variations determined that 81.4% of uninsured patients were using contraception in 2016, down from 87.8% in 2014.⁸

Methods of contraception utilized by women vary based on ethnicity. Surgical contraception is more commonly utilized by Black and Hispanic women, at rates of 22.0% and 20.0%, respectively.⁹ In contrast, only about 16.0% of White women used surgical contraception. It is well documented in the literature that women of low socioeconomic status and minority populations are less likely to use contraception and have higher rates of failure of contraception use than their white, higher socioeconomic counterparts.¹⁰ Likewise, the use of condoms is higher in Black and Hispanic women, which is concerning as the effectiveness of these methods is lower than other forms of contraception such as intrauterine devices (IUD) and implants.¹⁰ This may contribute to the increased risk of unplanned pregnancy among minority women.

BRIDGE Student-Run Free Clinic

Building Relationships and Initiatives Dedicated to Gaining Equality (BRIDGE) Healthcare Clinic is a student-run free clinic affiliated with the University of South Florida Morsani College of

Medicine in Tampa, Florida. The clinic provides both primary care and specialty care to uninsured patients in Hillsborough County that are also living with a home income 200% below the poverty line. Hillsborough County is rapidly growing and the 3rd most populous county in the state of Florida, composed of a mixture of city and suburban atmosphere.¹¹ Services are provided 1-2 times a week at the outpatient Morsani Center for Advanced Healthcare by a multidisciplinary team involving medicine, pharmacy, social work, and public health. Gynecologic services are provided by both Obstetrics and Gynecology and Family Medicine residents and physicians. The services to this population are made possible by the generous donations from university and community donors.

Gynecologic visits are run just as they would be run at a standard insured clinic. Patients are given an appointment time and assigned a healthcare group consisting of an attending physician, senior medical student, junior medical student, pharmacy student, and interpreter, if necessary. Patients are first seen by a pair of medical students who obtain a history and perform a physical exam, excluding the breast and pelvic exam. Students then present the patient to the attending physician and come up with a plan of care. The interdisciplinary team then goes back to the patient to obtain additional information and perform the remainder of the physical exam. The findings and final plan are then conveyed to the patient and appropriate next steps are taken, such as ordering labs, scheduling future appointments, and updating the patient's chart. Practice Fusion is the web-based electronic record used at BRIDGE. At the start of each patient visit, the summary page, which includes diagnoses, social history, past medical history, advanced directives, allergies, and medications is updated. At the end of the patient encounter, a standard Subjective, Objective, Assessment and Plan note is written to summarize the visit.

Contraception Methods Offered at BRIDGE

A wide variety of contraception methods are available for patients at BRIDGE based on their preference. Prescriptions are provided at BRIDGE for oral contraceptive pills, vaginal rings, dermal patches, intrauterine devices, and progesterone

injections. Alternate intrauterine devices and dermal implants can be obtained at an affiliated gynecology clinic by referral, where BRIDGE has a discounted contract. Tubal ligation and hysterectomies can be obtained by referral at an affiliated hospital where BRIDGE clinic has funding. When referring for surgical sterilization, BRIDGE will coordinate with volunteer physicians who can perform the operation at the affiliated hospital. All of the listed services are available to patients for minimal to no charge.

Study Objectives

The purpose of this study was to determine what percentage of the female patients at BRIDGE Healthcare Clinic are using contraception and assessing what percentage are at risk for unplanned pregnancy. Our clinic staff will be deemed as providing an appropriate level of contraception counseling if the rates of contraception use are at or above the national average. The subsequent goal was to later improve contraceptive care provided to this patient population with the aggregate data.

Methods

A retrospective chart review was conducted for all female BRIDGE Healthcare Clinic patients of reproductive age (18-60 years old) from 2015-2020. Patients younger than 18, although an important population to start contraception in, were excluded from the as they are not seen at BRIDGE clinic. Patients were identified through a search of the clinic's electronic medical record system (EMR). The review of the EMR was completed by a student clinic director and multiple medical student volunteers.

Records for all female BRIDGE Healthcare Clinic patients were reviewed. Patients were included if they were active BRIDGE Healthcare Clinic patients, pre-menopausal, and seen for at least one medicine or gynecology visit during the study period. Patients who became menopausal during the study period were included as it was relevant to note whether they had been counseled on contraceptives prior to becoming menopausal during the study period. Patients were excluded if they were menopausal prior to 2015 or if they were not seen for a medicine or

gynecology visit during the study period. Medical records were reviewed for demographic data, obstetric history, medical history, tobacco use, contraceptive methods and reasons for choosing contraception method. Demographic data included age, race, ethnicity, and marital status. Medical history was reviewed for hypertension and history of deep vein thrombosis (DVT), which are contraindications for estrogen-based contraception methods.

We defined contraception as use of any of the following: Depo-Provera injection, oral contraceptive pills, other hormonal methods such as a patch or vaginal ring, barrier methods such as condoms or diaphragms, spermicidal agents, cervical cap, rhythm method, abstinence, or surgical contraception such as bilateral tubal ligation and hysterectomy with or without bilateral salpingo-oophorectomy, or long-acting reversible contraception (LARC). LARCs include IUDs and hormonal contraceptive implants such as Nexplanon. A male partner with a vasectomy was also considered a form of contraception.

To determine trends in contraceptive use, we evaluated contraception by year and performed descriptive statistics using Microsoft Excel (v16.0, Microsoft, Redmond, Washington). Patients who were not seen at the BRIDGE Healthcare Clinic during an individual year were not included in the calculations for the year in which they were not seen. Institutional Review Board exemption was obtained prior to beginning data collection.

Results

A total of 145 patients of reproductive age were included in the study. The mean age of patients included in the study was 44 years, with 9.0% between 18 and 29, 24.1% between 30 and 39, 37.2% between 40 and 49, and 29.7% between 50 and 60. In total, 80.7% identified as Hispanic or Latino. A total of 59.3% were married and 83.4% were multiparous. Contraception use by demographic category is shown in Table 1. During the study period, 77.2% of women used at least one form of contraception. Of the 19 women who did not use a form of contraception, 3 (15.8%) desired pregnancy.

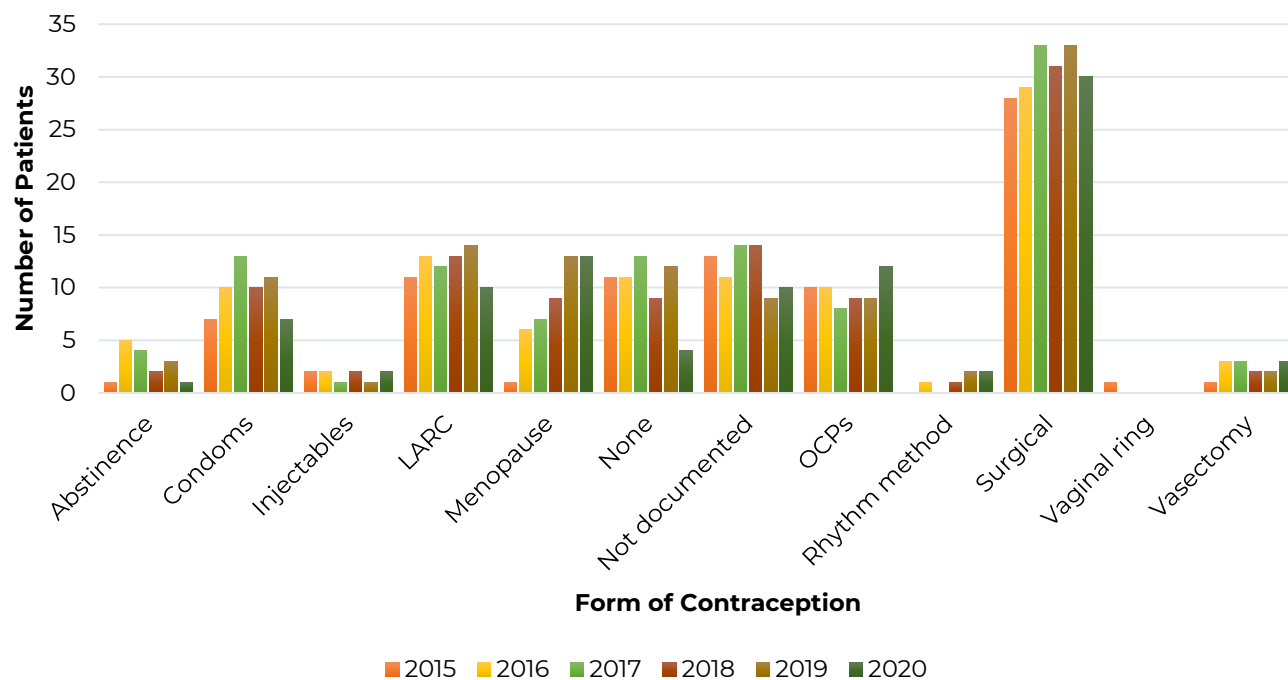
In our population, 20 women had a history of hypertension, and 2 women had a history of DVT.

Table 1. Demographics and contraception use rates of female patients at the BRIDGE Clinic from 2015 to 2020

Patient demographics	Contraception, N (%)	No contraception, N (%)	Did not specify, N (%)	Total
Age				
18-29	5 (38.5)	4 (30.8)	4 (30.8)	13 (9.0)
30-39	24 (68.6)	6 (17.1)	5 (14.3)	35 (24.1)
40-49	46 (85.2)	5 (9.3)	3 (5.6)	54 (37.2)
50-60	37 (86.0)	4 (9.3)	2 (4.7)	43 (29.7)
Ethnicity				
Hispanic or Latino	98 (83.8)	14 (12.0)	5 (4.3)	117 (80.7)
Non-Hispanic	8 (100.0)	0 (0.0)	0 (0.0)	8 (5.5)
Did not specify	6 (30.0)	5 (25.0)	9 (45.0)	20 (13.8)
Marital status				
Married	70 (81.4)	10 (11.6)	6 (7.0)	86 (59.3)
Single	36 (85.7)	4 (9.5)	2 (4.8)	42 (29.0)
Did not specify	6 (35.3)	5 (29.4)	6 (35.3)	17 (11.7)
Parity				
Multiparous	104 (86.0)	12 (9.9)	5 (4.1)	121 (83.4)
Nulliparous	4 (33.3)	3 (25.0)	5 (41.7)	12 (8.3)
Did not specify	4 (33.3)	4 (33.3)	4 (33.3)	12 (8.3)

BRIDGE: Building Relationships and Initiatives Dedicated to Gaining Equality

Figure 1. Contraceptive methods utilized by female BRIDGE patients from 2015 to 2020



BRIDGE: Building Relationships and Initiatives Dedicated to Gaining Equality; LARC: Long-acting reversible contraception; OCPs: Oral contraceptive pills

There were 3 current tobacco users. No women with a history of DVT or active tobacco use were using estrogen containing contraception during the study period. Of the 20 women with hypertension, one woman was using estrogen-containing oral contraception for one year during the six-year period.

Surgical contraception was the most common form of contraception in our population for all 5 years in the study period, representing around 30.0% of contraceptive use. IUD, oral contraceptive pills (OCPs), and condoms each represented about 10.0% of contraceptive use among our patients. Less common forms of contraception included implants, injectables, vaginal ring, abstinence, and the rhythm method. Patients with a male partner with vasectomy ranged from 1.2% to 3.2% of the population. Over the six-year period, the proportion of patients reporting no contraceptive use ranged from 4.3% to 12.8%. Contraception was not documented in 8.3% to 15.1% of patients during the study period. Contraceptive

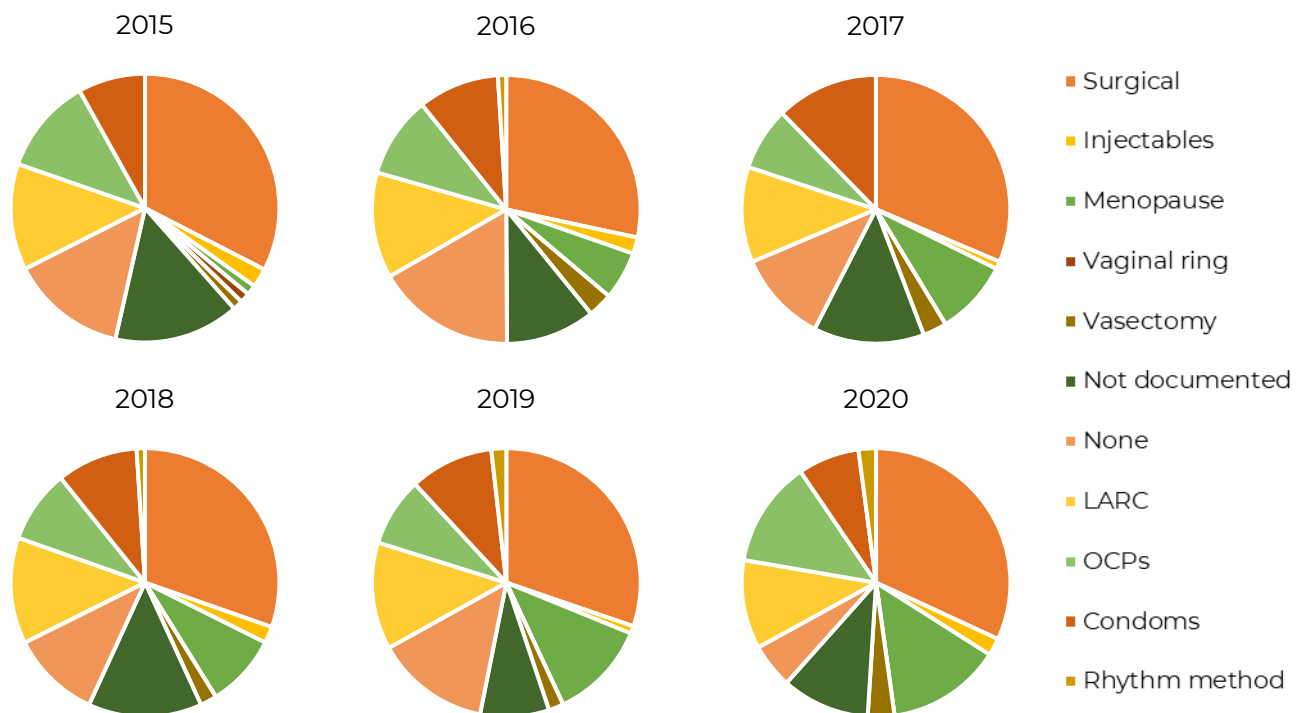
use by year is shown in Table 2, Figure 1, and Figure 2.

Discussion

The average rate of BRIDGE Healthcare Clinic patient contraceptive use increased from 72.1% in 2015 to 85.1% in 2020, with an average of 77.2% of patients using at least one form of contraception during the study period. This study provides evidence that student-run free clinics such as the BRIDGE Healthcare Clinic represent a critical opportunity to address contraception needs in patients from minority and low socioeconomic backgrounds. Across the six-year study period, we provided contraceptive services to both Hispanic and non-Hispanic patients at a rate higher than the general population as documented by the 2017 National Survey of Family Growth.¹¹

The number of patients in menopause increased over the six-year period, which may account for the decline in use of methods such as

Figure 2. Contraceptive rates at BRIDGE by method from 2015 to 2020



BRIDGE: Building Relationships and Initiatives Dedicated to Gaining Equality; LARC: Long-acting reversible contraception; OCPs: Oral contraceptive pills

Table 2. Contraceptive rates by method utilized by female BRIDGE patients from 2015 to 2020

Contraceptive method	Year, N (%)*					
	2015	2016	2017	2018	2019	2020
Not documented	13 (15.1)	11 (10.9)	14 (13.0)	14 (13.7)	9 (8.3)	10 (10.6)
None	11 (12.8)	11 (10.9)	13 (12.0)	9 (8.8)	12 (11.0)	4 (4.3)
Menopause	1 (1.2)	6 (5.9)	7 (6.5)	9 (8.8)	13 (11.9)	13 (13.8)
Abstinence	1 (1.2)	5 (5.0)	4 (3.7)	2 (2.0)	3 (2.8)	1(1.1)
Rhythm method	0 (0.0)	1 (1.0)	0 (0.0)	1 (1.0)	2 (1.8)	2 (2.1)
Condoms	7 (8.1)	10 (9.9)	13 (12.0)	10 (9.8)	11 (10.1)	7 (7.4)
Vaginal ring	1 (1.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
OCPs	10 (11.6)	10 (9.9)	8 (7.4)	9 (8.8)	9 (8.3)	12 (12.8)
Injectables	2 (2.3)	2 (2.0)	1 (0.9)	2 (2.0)	1 (0.9)	2 (2.1)
IUD	11 (12.8)	13 (12.9)	10 (9.3)	11 (10.8)	11 (10.1)	6 (6.4)
Implants	0 (0.0)	0 (0.0)	2 (1.9)	2 (2.0)	3 (2.8)	4 (4.3)
Surgical	28 (32.6)	29 (28.7)	33 (30.6)	31 (30.4)	33 (30.3)	30 (31.9)
Vasectomy	1 (1.2)	3 (3.0)	3 (2.8)	2 (2.0)	2 (1.8)	3 (3.2)
Total	86 (100)	101 (100)	108 (100)	102 (100)	107 (100)	94 (100)

*Percentages calculated out of year totals.

BRIDGE: Building Relationships and Initiatives Dedicated to Gaining Equality; OCPs: Oral contraceptive pills; IUD: Intrauterine device

IUDs and vaginal rings. Use of abstinence and condoms initially increased over the study period before later decreasing back to baseline. The rate of rhythm method, OCP, implants, and vasectomy increased from 2016 to 2020. Throughout the study period, use of injectables and surgical contraception remained relatively constant. Finally, the rate of patients not using contraception reached a low of 4.3% in 2020.

Our data demonstrate differences in contraception use across various demographics. The rate of contraception use among non-Hispanic patients across the study period was 100%, while use by Hispanic patients was 83.8%. One must consider that Hispanic patients make up 80.7% of the patient population at BRIDGE Healthcare Clinic, while non-Hispanic patients only make up 5.5%. Ethnicity was not specified for 13.8% of patients during the study period. Contraception use was highest in women aged 50-60 (86.0%), and lowest among women aged 18-29 (38.5%). This may be due to the higher rates of surgical contraception amongst older age groups and higher desire for pregnancy amongst the 18-29 age group. While the majority of patients seen were married, contraception use was greater among non-married women (85.7%) than married

women (81.4%). Finally, most patients were multiparous, with a contraception use rate of 86.0%.

Our student-run clinic demonstrated consistent documentation of contraception use in 84.9% to 91.7% of patients, indicating high rates of contraception counseling at clinic visits. In addition to contraception counseling, BRIDGE Healthcare Clinic also demonstrated appropriate prescription of contraception methods based on patient medical comorbidities by not having any women with history of DVT or tobacco prescribed estrogen-containing contraceptives. Although one woman with hypertension was prescribed an estrogen-containing contraceptive, this was discontinued by the following year.

There are multiple components to our success in contraception counseling that other student-run free clinics may consider to increase their contraception rates. We encourage all medical teams to review preventative health and social history with patients at every clinic encounter. To provide guidance, a BRIDGE Healthcare Clinic student director creates a “Weekly Preview” highlighting lab and imaging results as well as health maintenance initiatives for all patients scheduled for a clinic day. In addition, we hold a dedicated gynecology clinic night each month

which acts as a “safety net” to ensure all female patients seen during busy clinic nights are counseled about contraception. We also have committed student and staff volunteers, including a dedicated gynecologist who personally follows up with patient documentation and lab results. Another strength of BRIDGE Healthcare Clinic is the strong interpreting program. A team of Spanish-speaking undergraduate students trained in medical Spanish leads the program to reduce language barriers between clinic volunteers and our predominantly Hispanic patient population. This program allows for improved contraception counseling and is likely one of the factors that has led to high rates of contraception use. Finally, the longitudinal nature of BRIDGE Healthcare Clinic and focus on follow-up care allows for frequent patient visits with close monitoring of health maintenance and preventative care. The clinic could not be as successful if not for the dedicated group of faculty and student volunteers.

Limitations of this study include its retrospective design, as well as its small sample size. In addition, the BRIDGE Healthcare Clinic patient population is predominantly Spanish-speaking and Hispanic/Latino, which may limit application of results to other free clinics. Many of our patients spend only a part of the year in the US, limiting our ability to see patients and monitor contraception use. Hispanic patients are more likely to be uninsured and may utilize free clinics more frequently than other populations.¹² Therefore, our data is likely applicable to other clinics who serve these patients across the country. Another limitation of this study is the nature of our electronic health record system, which allows for a patient summary sheet, documenting updates to medical history, social history, and recent visits. Many providers updated contraception use in this section of the patient record at each visit; however, previous versions of the summary page are unavailable for viewing once the histories have been updated. Because of this, it was difficult to determine through chart review student and physician volunteer documentation of contraceptive use if it was not clearly stated in the encounter note. Therefore, if patient contraception use was clearly stated on the summary page and the patient was seen every year, we assumed the care team reviewed and updated this information

according to BRIDGE Healthcare Clinic guidelines. In addition, only one form of contraception was documented for each patient. There is the possibility that a patient who was documented using long-acting reversible contraception (LARC) or OCPs, for example, may also be using condoms, but only reported use of the prescribed contraception. It is probable that discrepancies exist between actual contraception use and that presented by our data. Further training for clinic volunteers regarding documentation of contraception use in each encounter note is required to prevent this error in future studies. Despite these limitations, our data represents at least one form of contraceptive utilized by our patient population, which can assist other free clinics in assessing their patients’ contraception preferences and accessibility.

Moving forward, this study has given BRIDGE Healthcare Clinic great insight on the contraception rates at the clinic, factors contributing to high rates, and some shortcomings that could be preventing even more optimal rates. The clinic will continue to improve rates of patient contraception use by implementing changes highlighted by the aforementioned limitations. This includes educating junior learners of the findings of this study, health implications of unplanned pregnancies, and how to counsel patients on contraception use. There will also be continued encouragement to student and physician volunteers to verify and document patients’ contraception methods and ensuring that they are not contraindicated for the patient and are being used properly. In addition, we will continue supporting gynecology night at BRIDGE Healthcare Clinic through the recruitment of volunteers. Finally, we will continue our education initiatives to educate patients on the importance of contraception use to avoid unplanned pregnancy.

Conclusion

Contraception use is a critical component of women’s healthcare. Unplanned pregnancy results in poor outcomes for both mother and infant, particularly among women from minority and low socioeconomic populations. Student-run free clinics such as BRIDGE Healthcare Clinic provide a valuable opportunity to provide

contraception counseling and resources low-income and uninsured populations. By following the patient care model demonstrated at BRIDGE Clinic and considering the limitations discussed, other student-run free clinics can mirror their patient care models for similarly high contraception rates. Additionally, BRIDGE Clinic intends to use the strengths and weaknesses of the clinic identified during the study to further improve contraception rates.

Acknowledgements

We would like to thank our generous community donors and USF Health for sponsoring BRIDGE Healthcare Clinic so that we may continue to provide gynecologic care and contraceptive services to our patients.

Disclosures

The authors have no conflicts of interest to disclose.

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