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Operations Research Study to Improve Postabortion Care (PAC) Services among Adolescents in the Dominican Republic

Youth Research Working Paper No. 7



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OPERATIONS RESEARCH STUDY TO IMPROVE POSTABORTION CARE (PAC) SERVICES AMONG ADOLESCENTS IN THE DOMINICAN REPUBLIC

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ABBREVIATIONS

DIGEMIA	National Maternal/Child Health Directorate (DIGEMIA): Dirección General Materno-Infantil y Adolescentes
DR	Dominican Republic
EEOP	Essential and emergency obstetric practices
FP	Family Planning
MOH	Ministry of Health
PAC	Postabortion Care
PHSC	Protection of Human Subjects Committee
RA	Research Assistant
STI	Sexually Transmitted Infections
VCT	Voluntary Counseling and Testing

Executive Summary

Counseling postabortion care (PAC) patients on family planning and facilitating their access to family methods can help prevent future unwanted pregnancies and repeat abortions. In many countries, adolescent PAC patients constitute a significant proportion of patients seeking PAC services. Recent qualitative work suggests that adolescents seeking PAC services maybe more marginalized than older women seeking the same services.

Public PAC services in the Dominican Republic (DR) need improvement. One area of particular concern is the lack of contraceptive counseling and access to family planning methods for PAC patients. A small qualitative study among adolescent PAC patients accessing public services in the DR found that the majority of patients did not want to be pregnant at the time they became pregnant but were not using a contraceptive method to prevent pregnancy. These patients also lacked accurate information about contraceptive methods, and some doubted that methods were effective at preventing pregnancy.

Objectives

We designed an operations research study to improve the PAC counseling and contraceptive uptake among adolescent PAC patients seeking public services in the DR. Among PAC patients, the main study goal was that 60% of patients who wished to delay pregnancy be discharged with a contraceptive method. We also examined patients' reports on the counseling they received related to their immediate risk of pregnancy, contraception, HIV/STI risk, and postabortion complications. We evaluated changes in providers' PAC counseling knowledge and practices, and attitudes towards working with adolescent patients, prior to and after implementing the intervention.

Methods

This study was implemented in four public hospitals in the DR. CONECTA in conjunction the Ministry of Health, in particular the National Maternal/Child Health Directorate (DIGEMIA: Dirección General Materno-Infantil y Adolescentes), are working in these hospitals to improve essential and emergency obstetric practices (EEOP), including PAC. We conducted an initial assessment visit to the study hospitals where we explored issues related to current PAC service provision and the availability of contraceptive methods. We collected baseline data with 88 providers in the hospitals to inform the development of the intervention. No baseline data were collected with PAC patients since very few patients were being treated in the study hospitals prior to CONECTA/DIGEMIA efforts to improve EEOP. The PAC counseling intervention consisted of the development of a provider training curriculum, a provider counseling guide, a poster, and a patient brochure. The poster and materials were designed to be "youth friendly" and were pre-tested with adolescents. Providers from the study hospitals were trained to counsel PAC patients using the materials developed. Special attention was given in the training to engaging providers in discussions regarding their attitudes towards adolescent PAC patients. Follow-up visits were conducted in study hospitals one to two months after the providers had been trained to address any questions the providers had regarding the training they received and to assess whether providers were delivering PAC counseling messages. Six months after the providers were trained, we collected follow-up data with providers and patients. We interviewed

88 providers, 140 adolescent PAC patients (≤ 19 years), and 134 older PAC patients (20-35 years). Older women were interviewed as a comparison group and were matched to adolescent patients by hospital and time of arrival.

Results

Forty-percent of adolescent PAC patients and 45% of older PAC patients who wished to delay pregnancy were discharged with a contraceptive method with no significant differences found for patient age when controlling for other factors. Adolescent patients were most likely to receive injectables, whereas older women received both oral contraceptive pills and injectables. No patients received condoms. Adolescent and older patients differed only slightly in the reasons they gave for not leaving the hospital with a contraceptive method. However, for adolescents parental opposition was an important factor whereas hospital-related factors (method availability and not being offered a method) were cited more often by older women. In addition, a large proportion of adolescents and older patients reported they intended to use a method at some point in the future but were not prepared to accept a method at the time of their hospital discharge. Finally, only half of the study participants were counseled on their immediate risk of pregnancy and postabortion complications, and only 15% reported they were counseled on their risk for HIV/STI.

Providers' knowledge regarding family planning and when a patient is at risk of a subsequent pregnancy increased over time. For example, at baseline only 20% of providers reported that PAC patients are at immediate risk of pregnancy, and this percentage increased to 74% at follow-up. Provider attitudes improved overtime as well. However, no differences were noted in providers' counseling practices, with 73% of providers reporting at both baseline and follow-up that they routinely discuss family planning, HIV/STI risk, and postabortion complications with patients. Finally, a significant proportion of providers reported that they used the patient brochures when they counseled clients.

Finally, we found large disparities in providers' and patients' reports of counseling behaviors. For example, almost three-quarters of the providers interviewed at baseline and at follow-up reported that they counseled patients on contraception, whereas only 40% of patients report receiving these types of counseling messages.

Discussion

This is the first operations research study designed to improve contraceptive uptake and PAC counseling for adolescent PAC patients. Adolescent and older PAC patients reported similar levels of contraceptive uptake and exposure to PAC counseling messages; however there is room to improve PAC counseling and contraceptive uptake among all women. While the importance of having contraceptives available to PAC patients at all times was emphasized during the study, with providers as well as hospital administrators, only one study hospital started making methods available in the treatment area. Changes in the other study hospitals are needed to facilitate PAC patients' access to contraceptive methods. In addition, over the course of the study, the hospitals experienced method stock-outs which most likely thwarted our intervention efforts.

Significant efforts and resources were placed into developing the provider training and information, education, and counseling (IEC) materials in order to make them "youth friendly"

and to address providers' attitudes towards working with adolescent PAC patients. Changes in providers' attitudes and use of intervention materials, particularly the patient brochure, are evidence that our efforts were successful. Programs seeking to improve PAC counseling and contraceptive uptake should not overlook the needs of adolescents.

I. Introduction

Timely and appropriate treatment of unsafe abortions and incomplete spontaneous abortions can prevent maternal death and morbidity. It also provides an opportunity to prevent future unwanted pregnancies and to address other reproductive health (RH) needs.¹ At a minimum, PAC should include counseling patients on their contraception options and providing them with contraceptive methods, testing and treatment of sexually transmitted infections (STI), including HIV (or referral to services where these services can be obtained), and community efforts to prevent unwanted pregnancy and to recognize complications of abortion so women can receive appropriate care.^{2,3} The PAC service delivery community now emphasizes the need for better client-centered counseling to 1) address women's emotional and physical needs; 2) ensure that women receive accurate information about their treatment, pain management, and post-treatment care; and 3) ensure that women are aware of postabortion complications.²

In a review of 10 operations research studies conducted in Mexico, Peru, Honduras, Bolivia, El Salvador, Guatemala, and Panama in public hospital settings, Benson and Billings reported improvements in PAC treatment and contraceptive counseling with modest intervention efforts.⁴ In most cases, treatment improved with the introduction of manual vacuum aspiration (MVA) and the reorganization of services to better serve patients. Improvement in contraceptive counseling was associated with the availability of methods in wards where patients recover and the training of personnel to conduct the contraceptive counseling. However, other aspects of patient counseling, such as information on postabortion complications and fertility resumption remained weak, suggesting the need for more provider training and supervision in these areas. More recently, Kestler et al. have reported on an impressive scale-up effort in Guatemala where PAC services were extended from two teaching hospitals to 22 of 33 public facilities. Significant increases were seen post-intervention in the percentage of patients treated with MVA, counseled about contraception, and discharged with a contraceptive method.⁵

The World Health Organization (WHO)⁶ and the PAC Consortium⁷ both contend that adolescent PAC patients have needs that differentiate them from older women seeking the same services. Younger women are more likely than older women to delay seeking an abortion and are more likely to seek an unsafe abortion, increasing their risk of complications. They are also less likely to seek PAC treatment once complications occur.^{7,8} Adolescents have different sexual behaviors than older women, including less frequent sexual activity, more partners, and higher rates of forced sexual experiences.⁹ These attributes may dictate that different messages be emphasized in PAC counseling sessions, such as the use of condoms for dual protection purposes or referral to locations where STI/HIV counseling and testing services are offered.

Despite the call for youth-friendly PAC services, few studies have specifically focused on adolescent PAC patients. The PAC studies that included adolescents focused on the why women sought abortions, who performed the abortion, and the types of complications women experiences as a result of the abortion.¹⁰⁻¹³ EngenderHealth conducted a qualitative study in the Dominican Republic (DR) in 2002 and another in Malawi in 2003 to determine how hospitals can better meet the needs of adolescent PAC patients. In-depth interviews were conducted with adolescent PAC patients. Fear was commonplace; young women in the DR reported fear of

sterility while women in Malawi feared death. Patients reported delays in obtaining treatment because they were unsure where to obtain treatment. Pain management was problematic with the majority of patients reporting they arrived in pain and experienced pain during their uterine evacuation. Patients reported that PAC counseling was not provided, despite their need for information, particularly on contraception. For example, in the DR 33 of the 40 adolescents interviewed did not want to be pregnant at the time they became pregnant but were not using a contraceptive method to prevent pregnancy. While most of the adolescents interviewed in this study knew about contraceptive methods, most did not have accurate information and doubted that methods were effective at preventing pregnancy.

Adolescent pregnancy in the Dominican Republic (DR)

High rates of teenage pregnancy persist in the DR. According to the 2002 DHS, 23% of adolescents aged 15 to 19 have been pregnant at least once.¹⁴ This percentage has remained the same since 1996¹⁵ but is higher than that reported in 1991 (18%).¹⁵ The proportion of adolescents who are mothers by age 19 has increased as well from 26% in 1991,¹⁶ to 37% in 1996,¹⁵ and to 41% in 2002.¹⁴

Many factors influence the high pregnancy rate among adolescents in the DR. First, contraceptive use remains low among adolescents. In 2002, about 38% of adolescents in union and 29% of those sexually active but not in union reported using a modern method the last time they had sex.¹⁴ In addition, the mean age of sexual initiation has fallen from 19.3 in 1991¹⁶ to 18.4 in 2002.¹⁴ Data suggest that some adolescents in the DR desire pregnancy as a means to elevate their status within society.¹⁷ Also, some adolescents believe that being pregnant is proof of their fertility and might help solidify their relationships with their partners.¹⁸ Social and cultural factors, such as the reluctance of parents to discuss RH issues and the lack of sexual and RH education in public schools, have left many teens ill-equipped to prevent unintended pregnancy.^{17,18}

Recognizing the special RH needs of adolescents, the Ministry of Social Health and Public Welfare (SESPAS) has written norms to improve RH health services for adolescents. These norms include an adolescent's right to integrated and comprehensive health care, to privacy, and to decide whether their parents are present at RH consultations. However, few providers are aware of these norms and adherence to them is poor.¹⁷

Abortion and PAC services in the DR

The DR has a restrictive abortion policy; not even in cases of incest and rape is it permitted.¹⁹ The strictness of this law has encouraged the practice of unsafe and clandestine abortions.²⁰ In 1992, 16,500 women were treated for abortion complications in hospitals, producing an annual rate of admission to hospital for treatment of complications from abortion of 9.8 per 1000 women.^{21,22} The WHO estimates that in the year 2000, 17% of maternal deaths were attributable to unsafe abortion in the Latin American and Caribbean region.²³ The high rates of maternal mortality and morbidity in the DR have been attributed to the poor quality of obstetric services, including PAC, and poor adherence to delivery protocols in hospitals, where the majority of births occur.¹⁷ Although recent work suggests that the increased use of misoprostal (Cytotec) has

contributed to a decrease in abortion-related maternal mortality,²⁴ women who use misoprostal often require treatment to complete the abortion, and officials have begun to press charges against doctors and women who seek PAC services under these circumstances.²⁵

Studies carried out in the DR highlight the need to improve PAC services offered in the public sector. PAC patients lacked privacy in treatment areas and often had to share beds with other obstetric patients.^{17,18} A lack of hygiene in the treatment area was noted as well, leading some patients to fear getting an infection.¹⁸ Hospitals lacked staff, equipment, supplies, pain medication, and anesthesia.¹⁸ As a result, patients were often not given pain medication and were told that the pain would subside once they were treated.¹⁸ Some studies reported that hospital staff verbally abused some patients during their hospital stay. Finally, contraceptive counseling was sporadic and methods were not readily available to patients.^{17,18}

Provider attitudes also influence the quality of PAC services. Studies have noted that some providers perceive abortion and non-marital sex as immoral, and they provide PAC services to young women begrudgingly (if at all), often blaming and stigmatizing young women for their circumstances.^{26,27} In the DR, about half the providers interviewed in the EngenderHealth qualitative study showed some compassion toward adolescent PAC patients, but others blamed the adolescents for their circumstances and called them irresponsible. A few providers also stated that PAC services could be improved if the adolescent patients did not get so upset or cry. Some providers felt the adolescent PAC patients should just accept the services being offered and not complain about them. Finally, some providers opposed providing adolescent PAC patients with contraception and RH counseling because they feared doing so would encourage them to have sex and become pregnant again.¹⁸

An opportunity to improve PAC counseling for adolescents in the DR

In 2002, the United States Agency for International Development in the Dominican Republic awarded a grant to CONECTA (a partnership between Family Health International, Abt Associates Inc, and Agencia Latino Americana de Expertos en Planificación H. [ALEPH]) to address maternal mortality and improve the treatment of adolescents in public hospitals. To reduce maternal mortality, CONECTA has worked with smaller hospitals to improve essential and emergency obstetric care by upgrading hospital facilities, establishing obstetric guidelines, and training personnel. In addition, activities were carried out to generate demand for obstetric services in the communities served by these smaller hospitals. These activities were seen as crucial to relieve the burden on the large, understaffed maternity hospitals. PAC was one area of obstetric intervention. The PAC training conducted with hospital staff focused on the treatment of PAC patients and the use of MVA. In addition, CONECTA worked with the same public hospitals to establish adolescent integrated care units. These units trained providers to meet the health needs (e.g., family planning, prenatal care, etc.) of adolescents.

Study objectives

The FHI/YouthNet project approached CONECTA with the idea of developing and evaluating an intervention aimed at improving the PAC counseling and contraceptive uptake among adolescent PAC patients. This effort was seen by CONECTA and the study hospitals themselves as a complement to their on-going efforts to improve care. This study had both patient and provider study objectives and these were:

1. To determine the percentage of PAC patients discharged with a contraceptive method among those who wish to delay pregnancy for at least one month.
2. To assess the percentage of PAC patients who report receiving PAC counseling messages related to the immediate risk for pregnancy, method availability, and postabortion complications.
3. To determine if there are differences between adolescent PAC patients (≤ 19 years) and older PAC patients (20 -35 years) concerning objectives 1 and 2.
4. To evaluate the impact of the intervention efforts on providers' attitudes towards working with adolescent PAC patients and providers' PAC counseling knowledge and practices.

II. Methods

Study hospitals

The study was carried out in four public hospitals: Engombe, Villa Mella, Alcarizzos II, and Dr. Francisco Gonzalvo de La Romana. The first three hospitals are located in the Santo Domingo area and the fourth is located in La Romana, two hours east of Santo Domingo.

Study design

In March 2004, we conducted assessment visits at the study hospitals with hospital administrators, PAC providers, and personnel who worked in the on-site family planning and adolescent clinics to determine if they willing to participate in our research effort, the availability of contraception at the study sites, and the status of their PAC services. All hospital staff interviewed were interested in participating in the study. Two of the study hospitals received their contraceptive supplies from UNICEF and had no stock-out problems. Two of the other study hospitals were not supported by UNICEF and had experienced contraceptive stock-outs in the past. However, at the time of the assessment visits all study hospitals had contraceptive methods. Very few patients were treated at the three study hospitals located in Santo Domingo. However, all three hospitals anticipated treating most PAC patients at their facility after their providers participated in CONECTA's training to improve essential and emergency obstetric care. The hospital located in La Romana treated a fair number of PAC patients (25 or 30) on a monthly basis. While there seem to be good relations between the adolescent clinic and the family planning staff, patients were only likely to receive a contraceptive method if they were treated and released during normal business hours.

We conducted a baseline assessment with 88 providers in the four study hospitals in September and October 2004. It revealed that few patients were being discharged with a contraceptive method and that providers needed information on key PAC counseling topics. For example, only 25% of providers interviewed knew when patients were at risk of becoming pregnant.

We used the baseline findings to develop the intervention activities and materials, including a provider training curriculum, a provider counseling guide, poster, and a patient brochure. These materials were based on existing materials, which we modified to emphasize the counseling needs of adolescent PAC patients. Drafts of these documents were shared with various organizations (EngenderHealth, IPAS, Pathfinder, and other members of the PAC consortium), which provided input and guidance.

Once partner organizations' feedback was incorporated, all of the materials were pre-tested. The provider counseling guide was pretested via three focus group discussions with providers. Two of the three discussions were conducted in the study hospitals in La Romana (seven participants in the group) and in Villa Mella (nine participants in the group). The third discussion was conducted in the large maternity hospital Maternidad Nuestra Señora de La Altagracia (five participants in the group). The poster and brochure were pretested via five focus group discussions. Four of these were conducted with adolescents, some of whom had used PAC services. One group was conducted with adolescent peer educators. Changes were made to the

materials based on the pre-tests. The goal of the focus groups with adolescents was to make the materials more youth friendly. For example, based on focus group feedback, the patient brochure was modified with brighter colors and the figures were changed to look more like adolescents. In addition, several wording changes were made so that the poster and brochure would be easier for young people to understand. The intervention materials were developed and finalized over approximately eight months.

Provider trainings were conducted in June and July of 2005. These trainings lasted three days. The trainings were interactive and focused on key PAC counseling messages, the use of the counseling guide, and other intervention materials. One entire morning was dedicated to reviewing the SESPAS norms for providing care to adolescents and discussing providers' attitudes about adolescents who sought PAC services.

Follow-up meetings were held in the study hospitals one to two months (August and September 2005) after the trainings were conducted to answer any questions providers had regarding the training or the materials they were provided. The availability of methods in the areas where PAC patients recovered was also discussed. We also prepared a simple monitoring form for the CONECTA staff to use when visiting the hospitals. This form could be used by CONECTA staff when they observed counseling sessions between hospital staff and PAC patients. Items on the check list including basic quality of care indicators (provider greeted patient, treated patient with respect, asked patient if they had questions, etc.) as well as information on the PAC counseling messages providers gave patients (told patient about their immediate risk for pregnancy, discussed postabortion danger signs, offered patient a contraceptive method, etc.). No formal monitoring data were collected with this form, and we are uncertain if and how often this form was used.

Six months after the provider trainings, follow-up data were collected from providers who worked with PAC patients in the study hospitals. The data collection lasted from February 2006 to July 2006. Since few PAC patients were being treated in the Santo Domingo hospitals prior to CONECTA's efforts to improve care, and even fewer were being discharged with a contraceptive method, we were unable to implement a pre- and post-evaluation strategy with PAC patients. Therefore, we only collected post-intervention data from PAC patients.

Sample size

The primary indicator of success for the intervention efforts was the proportion of adolescents, among those who wanted to delay pregnancy, who were discharged with a contraceptive method. This indicator encompassed many of the aspects targeted in the intervention efforts such as contraceptive counseling, provider's attitudes regarding contraception for adolescents, and adequate access to methods. For our purposes, the counseling intervention efforts were to be considered successful if 60% of the adolescents who come to the study hospitals seeking PAC services were discharged with a contraceptive method. This goal was perceived to be feasible, as other intervention studies conducted in Latin America/Caribbean region have achieved this goal.⁴ A total of 140 adolescents were needed to estimate the proportion receiving a contraceptive method within 8 percentage points and a confidence level of 95%. For example, if we observed a 60% contraceptive uptake rate, we could conclude that the true contraceptive uptake rate is somewhere between 52% and 68% with 95% confidence. This level of precision was considered

sufficient to establish the success of the intervention and to inform programmatic decisions. We planned to recruit the same number of older PAC patients for comparison purposes. This sample size provides 80% power to detect a difference of at least 15% (e.g., 60% for adolescents and 75% for older women) in the contraceptive uptake rate (two-sided) with a significance level of 5%.

The post-intervention data collection was carried out from February to July 2006. During this time, a total of 274 PAC patients were interviewed, 140 patients 19 years of age or less and 134 patients aged 20-35. The response rate for patients was greater than 90%.

Data collection

Provider interviews

One research assistant (RA) was assigned to each study hospital. CONECTA gave the RAs a list of all providers who provided PAC services at the study hospital. The RAs attempted to interview all those on the list but also interviewed providers who were working with PAC patients at the study hospitals but were not on the list. All types of providers were interviewed including general doctors, obstetricians and gynecologists, nurses, auxiliary nurses, and health counselors. The provider interviews were conducted at a time and location that were convenient to the providers.

Patient interviews

Patients treated with either MVA or dilation and curettage (D&C) were asked to participate in this study. Adolescent and older PAC patients were matched on hospital and time of arrival. All adolescent PAC patients who were admitted into the study hospitals were asked to participate in the study. Oral consent was obtained from all adolescent patients prior to interview. Parental consent for adolescents was obtained only when an adolescent patient was accompanied to the hospital by a parent. For every adolescent PAC patient enrolled into the study, an older PAC patient was recruited into the study. After a young patient was identified, the next older patient admitted for PAC services at the same hospital was asked to participate in the study.

Because the study hospitals treated so few adolescent PAC patients, it was crucial to identify and recruit all of them into the study. The research assistants (RAs) worked closely with the hospital staff to ensure that all adolescent PAC patients were asked to participate in the study. Due to confidentiality concerns, the hospital staff asked the adolescent PAC patients if they would be willing to take part in a research study about the PAC services they received at the study hospital. The RAs did not approach the PAC patients directly to recruit them into the study. If a patient was interested in participating, the hospital staff contacted the RA. We provided the hospital staff and RAs with phone cards that facilitated the communication process between them. The RAs also contacted the hospital staff via phone or in person on a daily basis to determine if an adolescent patient had been admitted during the day or during the previous night.

The same recruiting processes were implemented for older women. After an adolescent patient was interviewed, the hospital staff identified the next older patient (20-35) and asked her if she was interested in participating in the study. Older patients who expressed a willingness to participate were then consented and interviewed by an RA.

We intended to interview all PAC patients just prior to their discharge from the hospital. However, due to an error in data collection, some patients were interviewed significantly prior to being officially discharged. We used a questionnaire that contained both open- and closed-ended questions. Oral consent was obtained prior to the interview. Interviews were conducted at bedside when the PAC patient was comfortable enough to be interviewed.

Data entry and analysis

For the provider and client questionnaires, appropriate range checks and skip patterns were programmed in EpiInfo, version 6.0 software templates by FHI staff in North Carolina. Data entry specialists from the local research organization, CESDEM, used the templates to enter the questionnaire data. Responses to all open-ended questions were entered into a word process program and sent to FHI/NC for data coding and entry.

All analyses were conducted by staff at FHI/NC using the statistical package SAS 9.1. For the most part, only frequencies were reported stratified by patient age for the patient data and by time period (baseline and follow-up) for the provider data.

A composite variable was created for the primary outcome – namely, the proportion of PAC patients who were discharged with a contraceptive method among those who wished to delay pregnancy. This outcome was derived using three variables: the desire for a future pregnancy, the timing of the future pregnancy, and receiving a contraceptive method. Women who reported they wanted to delay pregnancy for at least one month or were unsure when they wanted to become pregnant again were defined as having a need for contraception. For this subgroup, we calculated the percentage of women who received a contraceptive method. For the patients who were interviewed significantly prior to being officially discharged we do not know if in fact they left the hospital with a method. Therefore, the patients responses to whether they left the hospital with a contraceptive method were coded as yes, no, don't know/missing, and unclear. In the multivariate analysis, this outcome variable was coded dichotomously, with the no, don't know, and unclear responses collapsed into the referent category.

For the patient outcome variables, we computed the estimates of contraceptive uptake for both age groups (adolescent and older patients) and their corresponding 95% confidence intervals. Second, we compared secondary outcomes between these two groups. Bivariate comparisons are presented without statistical testing. To account for differences in various socio-economic variables between the two groups, we conducted conditional logistic regression models. For all statistical comparisons we used a conditional logistic regression model to account for the matching resulting from recruiting older participants based on the same hospital and time/day as adolescent participants. The models related to contraception controlled for potential confounding effects of marital status, education, parity, and prior contraceptive use. The models related to the immediate risk of pregnancy, STI/HIV counseling, and postabortion complication counseling controlled for the socio-demographic variables only and not previous contraceptive use. The odds ratio and 95% confidence interval were tabulated. P-values less than or equal to 0.05 (two-sided alpha) were considered statistically significant.

The provider outcome variables of attitudes towards working with PAC patients and PAC counseling knowledge and practices were stratified by time period, but no statistical testing was conducted.

A summary of the main study findings were presented at a data dissemination meeting in September 2006; staff from the study hospitals, CONECTA, and DIGEMIA were in attendance. The discussion focused on obstacles to counseling PAC patients and providing them with contraception and strategies for improvement.

Ethical considerations and informed consent

FHI's Protection for Human Subjects Committee (PHSC) reviewed and approved the study protocol, informed consent procedures, and study questionnaires. To protect patient confidentiality, we obtained oral consent from the study participants. Parental consent was only sought from parents who accompanied their adolescent children to the hospital for treatment. Parental consent was not sought if the adolescent came to the hospital for services without a parent.

III. Results

Patient results

Patient characteristics

The median age for the adolescent group and the older woman group was 18 and 24, respectively (Table 3.1). The two groups had similar levels of education. More women in the older group were married (75%) than in the adolescent group (48%). A large percentage of the adolescent group was still attending school, and half of the older women reported they were housewives. About 60% of both groups reported that someone accompanied them to the hospital. Thirty-eight percent of adolescents were accompanied by a parent to the hospital (data not shown).

Table 3.1. Median values and percent distribution of selected socio-demographic characteristics stratified by patient age

	Adolescent Patients (≤ 19 years of age) N = 140	Older Patients (20-35 years of age) N = 134
Median Age	18	24
Age Range	12-19	20-35
Median years of education	9	10
Range of education	0-13	0-16
No Response	1	1
Marital Status		
Married/Living together	48%	75%
Single/Separated	51%	24%
No Response	1%	1%
Employment		
Housewife	27%	50%
Student	40%	8%
Domestic worker	14%	31%
None	18%	8%
Other	1%	3%
Lives with parents		
Yes	41%	NA
No	54%	NA
No Response	6%	NA
Accompanied to hospital for treatment		
Yes	66%	61%
No	34%	39%

NA=Not Asked

Patient reproductive health characteristics

The majority of older women had children, whereas only about a quarter of the adolescent group had a least one living child (Table 3.2). Approximately a quarter of the older women and 9% of the adolescents reported they did not want any more children. There was a high need for

contraception in both groups, with more than 90% reporting they wanted to delay a subsequent pregnancy for at least one month.

Table 3.2. Median values and percent distribution of selected reproductive health characteristics stratified by patient age

	Adolescent Patients (≤ 19 years of age) N = 140	Older Patients (20-35 years of age) N = 134
Number of living children		
0	72%	25%
1	18%	25%
2 or more	10%	50%
Desire pregnancy in future		
Yes	91%	70%
No	9%	26%
Don't know/No Response		4%
Want to delay pregnancy for at least one month¹		
Yes	97%	91%
No	3%	9%

¹Included yes and don't know responses as well as those who do not desire a pregnancy in the future at any time

Patients' reports of counseling messages received

Adolescent and older women recalled key counseling messages at similar rates (Table 3.3). About half of patients reported that the hospital staff told them they were at immediate risk of becoming pregnant, and two-thirds reported that the staff asked them if they wanted to use a contraceptive method. Slightly less than half of the patients reported that they were told about the signs of postabortion complications. Very few patients (about 15%) reported being counseled about STI/HIV.

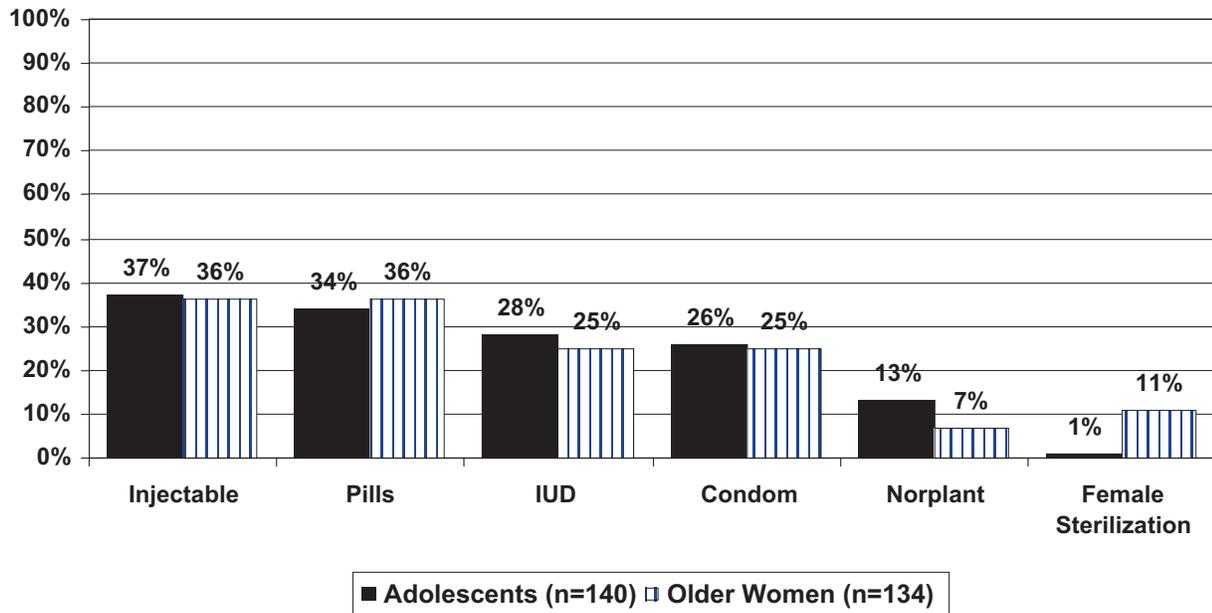
Table 3.3. Percent distribution of patients who reported receiving counseling messages related to fertility, contraception, postabortion complications, and STI/AIDS stratified by patient age

	Adolescent Patients (≤ 19 years of age) N=140	Older Patients (20-35 years of age) N=134
Patient reports that hospital staff told them are at immediate risk of getting pregnant		
Yes	55%	48%
No	44%	52%
Don't know	1%	
Asked about fertility intentions		
Yes	48%	45%
No	52%	55%
Asked if want to use method		
Yes	66%	67%
No	34%	33%
Discussed methods available at hospital/center		
Yes	42%	43%
No	58%	57%
Discussed postabortion complications		
Yes	49%	45%
No	51%	55%
No Response	<1%	
Discussed HIV/STIs		
Yes	14%	15%
No	86%	85%

Patients' reports of counseling received on specific contraceptive methods

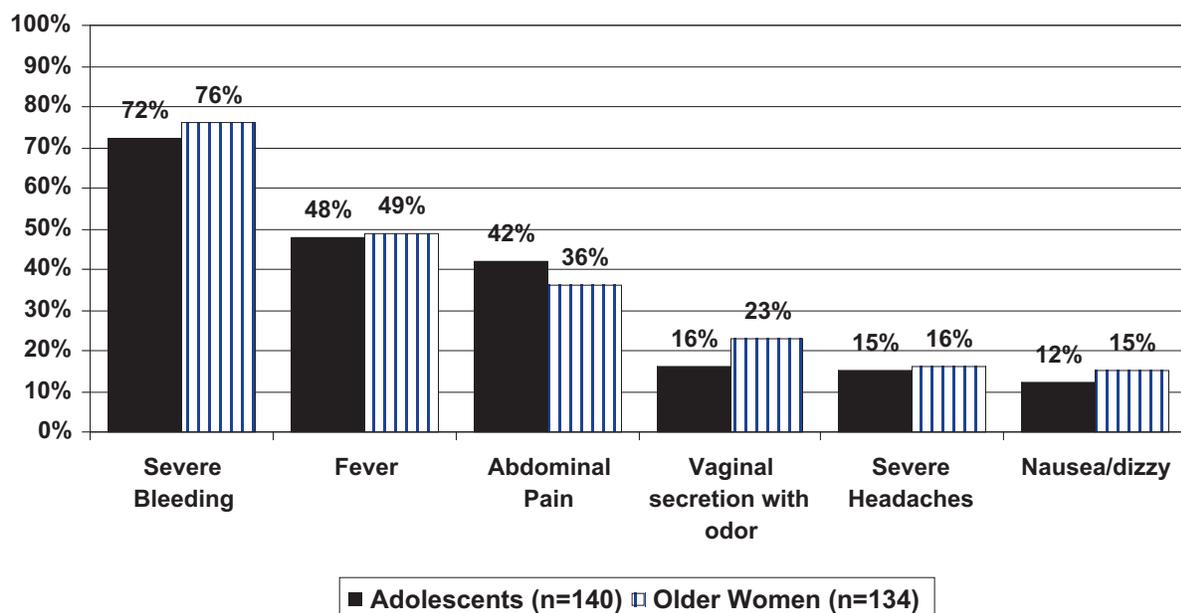
More than a third of patients were counseled on injectables and pills. Approximately, one-quarter reported they were counseled on IUDs and condoms. Finally, fewer adolescents were counseled on female sterilization as compared to their older counterparts (Figure 3.1).

Figure 3.1. Methods discussed with patients by patient age



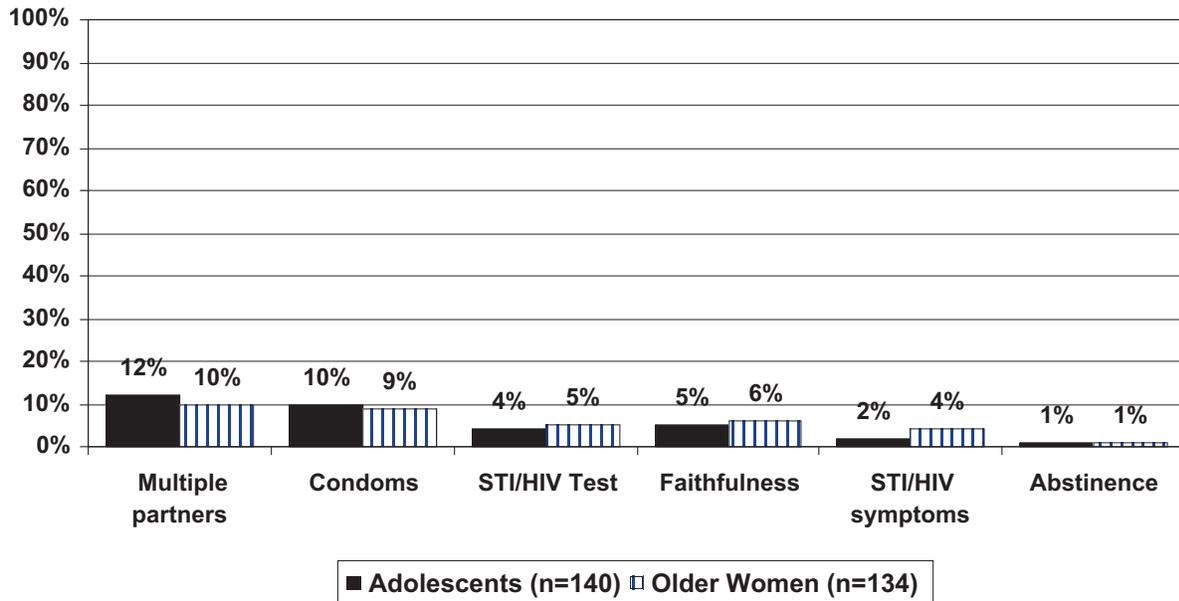
Approximately three-quarters of patients reported that severe bleeding was a postabortion complication that warranted returning to a medical facility for follow-up care (Figure 3.2). The second most common complication reported by patients was fever. Fewer patients reported that vaginal secretions with bad odor, severe headaches, and nausea and dizziness were postabortion complications.

Figure 3.2. Postabortion complications discussed with patients by patient age



The topics most commonly discussed with patients regarding their risk of acquiring STI/HIV included the risk of having multiple partners and the role of condoms in STI/HIV prevention (Figure 3.3). However, only 10% of patients reported having these discussions with providers.

Figure 3.3. STI/HIV counseling topics discussed with patients by patient age



Patients' report of contraceptive uptake and reasons for not leaving with a contraceptive method

About 42% (95% confidence interval [CI]: 36% - 48%) of patients wishing to delay pregnancy were discharged with a contraceptive method. A total of 40% adolescents (95% CI: 32%-48%) and 45% of older women (95% CI: 36%-54%) left the hospital with a method (Table 3.4). However, it is likely that this is a conservative estimate, because some patients had not been discharged yet (11% of adolescent patients and 12% of older women patients).

Adolescents and older women patients differed only slightly in the reasons they gave for leaving the hospital without a contraceptive method (Table 3.4). For adolescents parental opposition was important factor whereas hospital-related factors (method availability and not being offered a method) were cited more often by older women. Both adolescents and older women reported leaving without a method because they believed they could not get pregnant and therefore did not need a method. Finally, a large proportion of adolescents and older patients reported they intended to use a method at some point in the future but were not prepared to accept a method at the time of their hospital discharge.

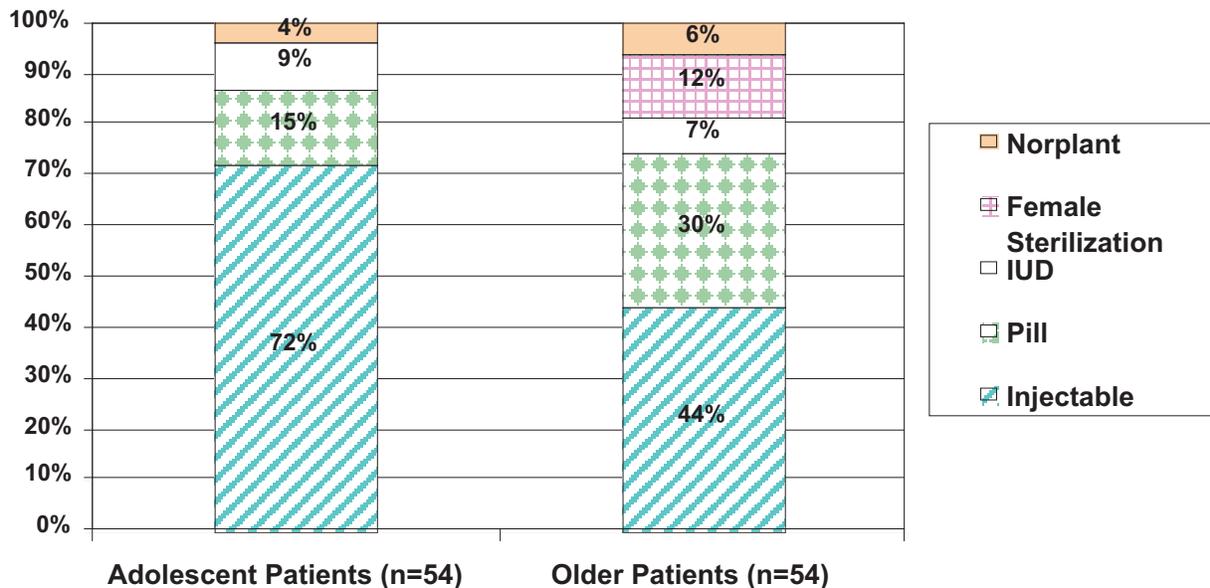
Table 3.4. Percent distribution of patients who wanted to delay pregnancy who were discharged with a contraceptive method, and reasons for not receiving a method

	Adolescent Patients (≤ 19 years of age) N= 136	Older Patients (20-35 years of age) N=121
Among patients who want to delay pregnancy, discharged with a method		
Yes	40%	45%
No	44%	36%
Unclear	11%	12%
Don't know/No Response	5%	7%
	N=67	N=52
Reasons for not leaving with a contraceptive method^{1,2}		
Personal		
Don't want one	16%	14%
Parents opposed	11%	0%
Can not get pregnant	9%	14%
Need to discuss with Partner	3%	4%
Patient reports severe complications	5%	8%
Intend to Use		
Will use in future	24%	15%
Need to recover first	18%	15%
Hospital-related		
Methods not readily available	11%	21%
Hospital staff did not offer	6%	15%

¹Among those who were coded as no, don't know, or no response to the question about leaving the hospital with a contraceptive method; ²Multiple responses allowed, thus percentages do not sum to 100%

Figure 3.4 shows the types of methods patients received, by age. The majority of adolescents received an injectable. Older women received an injectable and oral contraceptive pills. In addition, 12 percent of older women were discharged with appointments to be sterilized. No patients received condoms

Figure 3.4. Percentage of patients who received various contraceptive methods by patient age



Multivariate analysis of the relationship between patient age and family planning counseling variables

In the multivariate analyses (Table 3.5), we found that patient age was not a significant predictor of any of the study outcomes related to family planning (discharged with contraceptive method, counseled about immediate risk of pregnancy, asked if want to use family planning, and told about methods available) after controlling for factors including marital status, education, number of living children, and previous use of contraception. Nor were any significant relationships found between patient age and counseling on HIV/STI and postabortion complications.

Table 3.5. Adjusted odds ratios (and 95% confidence intervals) from logistic regression analyses assessing the association between patient age and the study outcomes

	Adolescent patients (n=140)	
	OR ¹	95% CI
Discharged with a method	0.31	(0.05-1.98)
Told of immediate risk for pregnancy	1.85	(0.80, 4.25)
Asked if wanted to use contraception	1.31	(0.51-3.38)
Discussed method available ²	0.27	(0.05 – 1.45)

¹Adolescents (n=140) vs. referent category older women (n=134)
²Adjusted for marital status, education, number of living children, and previous contraceptive use using conditional logistic regression models

Provider results

Provider socio-demographic characteristics

The providers interviewed at baseline and at follow-up were similar in many respects (Table 3.6). The majority of the providers were older women who had similar levels of education and years of experience working with PAC patients. However, in the baseline assessment, fewer married providers and more auxiliary nurses were interviewed. Finally, 70% of the providers in the follow-up assessment participated in the PAC counseling training sponsored by CONECTA and FHI/YouthNet.

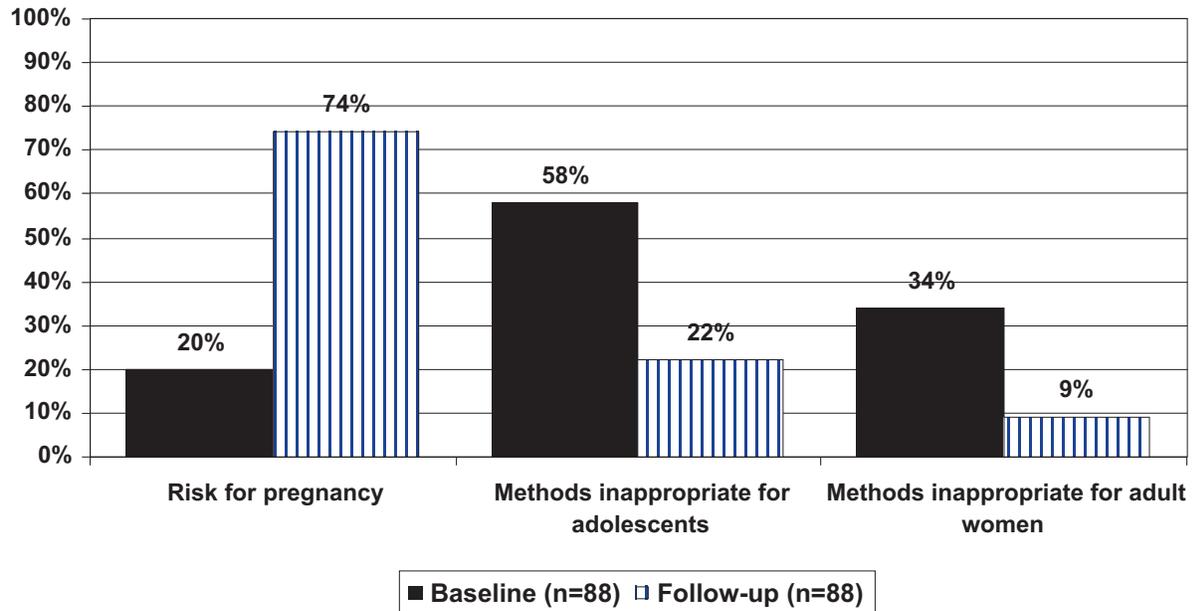
Table 3.6. Median values and percent distribution of selected socio-demographic characteristics of providers stratified by time

	Baseline	Follow-up
Sex		
Female	78%	68%
Male	22%	32%
Median Age	44	42
Range	(27-65)	(30-62)
Missing data		1
Median years Education	17	17
Range	7-29	8-30
Marital Status		
Married	55%	72%
Not married but living together	18%	8%
Single/Separated/divorced	27%	20%
Median number of years worked at hospital with PAC patients	6.7	6.6
Range	< 1 year – 24	<1 year - 26
Employment		
Auxiliary Nurse	39%	31%
Licensed Nurse	18%	10%
General doctor	22%	30%
Obstetrician/Gynecologist	20%	22%
Anesthesiologist	0	7%
Other	1%	1%
Participated in CONECTA/FHI PAC counseling training	n/a	70%
N	88	88

Changes in providers’ contraceptive and postabortion complications knowledge over time

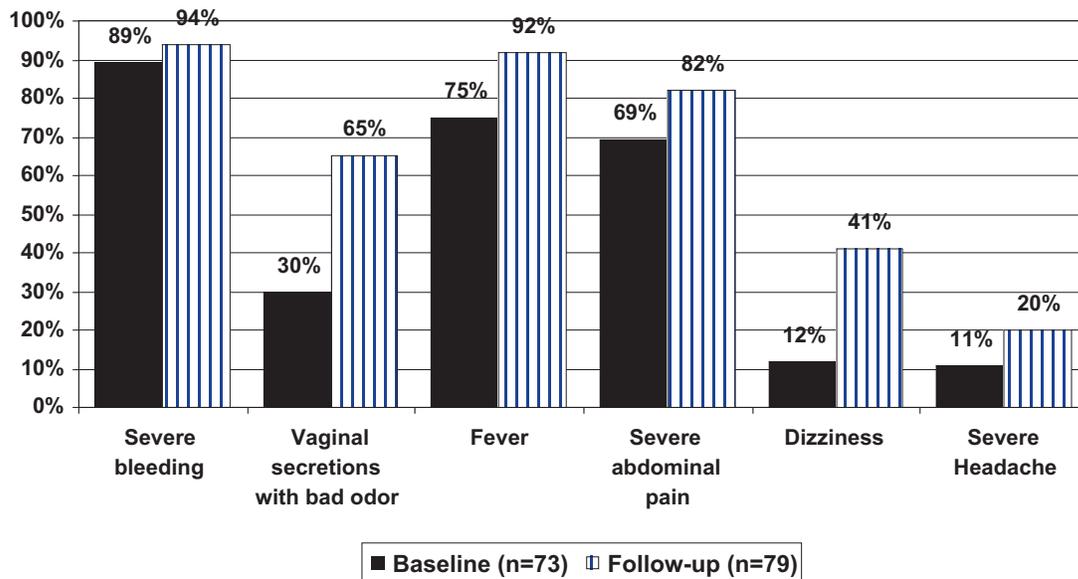
Provider knowledge relevant to contraceptive counseling increased over time (Figure 3.5). For example, at baseline only 20% of providers reported that a PAC patient is at immediate risk of pregnancy, even before she gets her next menstrual period. However, at follow-up 74% of providers reported correct knowledge of a patient’s risk for pregnancy. This information is crucial when counseling PAC patients about their need for contraception. Providers often deny women access to methods based on their age. During the training it was emphasized that age alone does not constitute a medical reason for denying a woman a contraceptive method. During the follow-up, fewer providers reported that some methods are inappropriate for adolescents and older women.

Figure 3.5. Provider’s knowledge regarding when PAC patients are at risk for pregnancy and the inappropriateness of methods for adolescent and older women patients by time



Providers’ knowledge of specific postabortion complications increased over time as well (Figure 3.6). At follow-up, large increases were seen in the percentage of providers who reported that vaginal secretions with a bad odor, fever, and dizziness were postabortion complication signs.

Figure 3.6. Providers’ knowledge of postabortion complications by time



Changes in providers’ counseling behaviors over time

Provider’s reported counseling behaviors changed very little over time (Table 3.7). The majority of providers (73% or more) reported they asked patients about their fertility intentions, counseled

them on contraception, STI/HIV, and postabortion complications at both baseline and follow-up. For example, 77% of providers at baseline and 76% at follow-up stated they counseled adolescent PAC patients on family planning.

Table 3.7. Percent distribution of providers who reported asking patients about their fertility intentions and provided counseling on contraception, postabortion complications, and STI/AIDS stratified by time

	Baseline	Follow-up
Ask adolescent patients about fertility intentions¹		
Yes	73%	83%
No	26%	10%
Don't know/No Response	1%	7%
Ask older patients about fertility intentions¹		
Yes	73%	81%
No	26%	12%
Don't know/No Response	1%	1%
Counsel adolescent patients on contraception¹		
Yes	77%	76%
No	19%	19%
Depends upon arrival time	2%	1%
Don't know/No Response	1%	3%
Counsel older patients on contraception¹		
Yes	80%	77%
No	19%	19%
Don't Know/No Response	1%	3%
Counsel all patients on risk for STI/HIV²		
Yes	80%	75%
No	19%	19%
Don't Know/No Response	1%	6%
Counsel all patients on complication signs²		
Yes	83%	90%
No	17%	6%
Don't Know/No Response	0%	4%
N	88	88

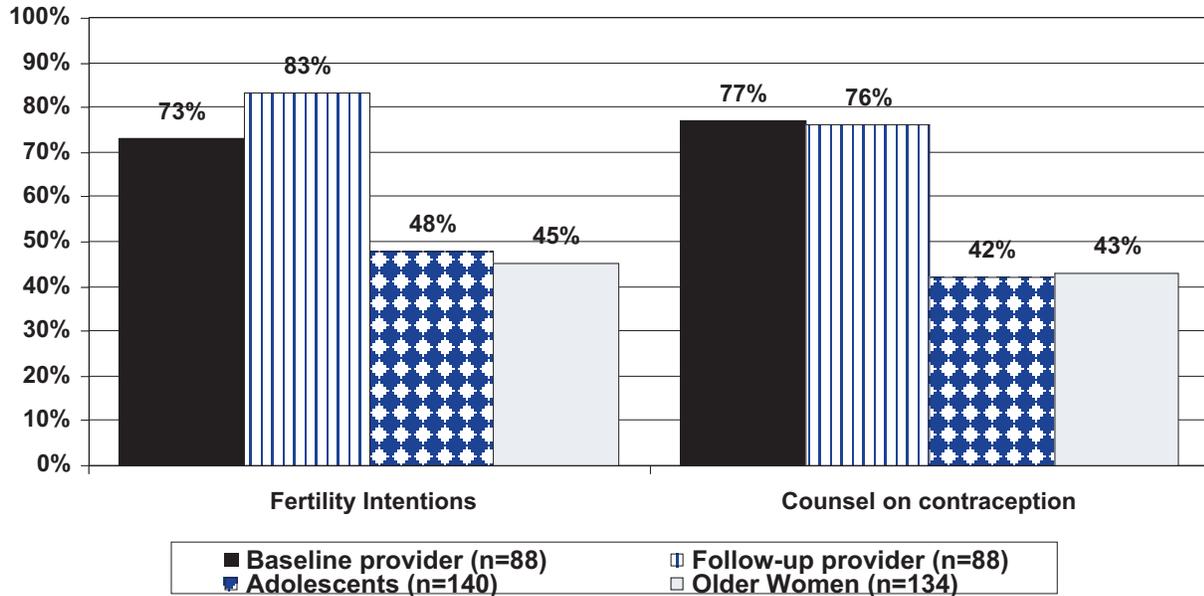
¹Questions specific to adolescent and to older PAC patients
²Questions not specific to patient age

Comparisons of providers' and patients' reports of counseling behavior

Figure 3.7 compares providers' and clients' reports on counseling behaviors related to contraception. About three-quarters of providers reported at baseline and follow-up that they

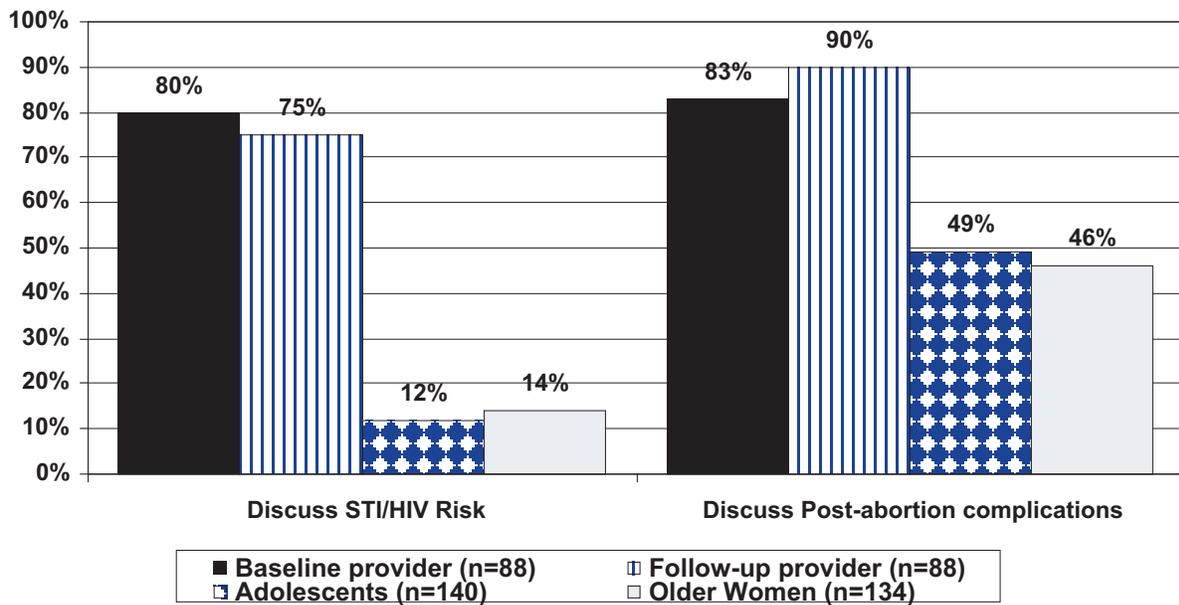
routinely counseled PAC patients on contraception; whereas 42% of adolescent patients and 43% of older women patients reported that a provider had discussed contraception with them.

Figure 3.7. Provider and patient reports on counseling related to contraception



Providers' and patients' reports are disparate as well with regards to discussion related to STI/HIV risk and postabortion complications (Figure 3.8). The majority of providers reported they routinely discussed these topics with PAC patients, but patients' reports of receiving these counseling messages were much lower.

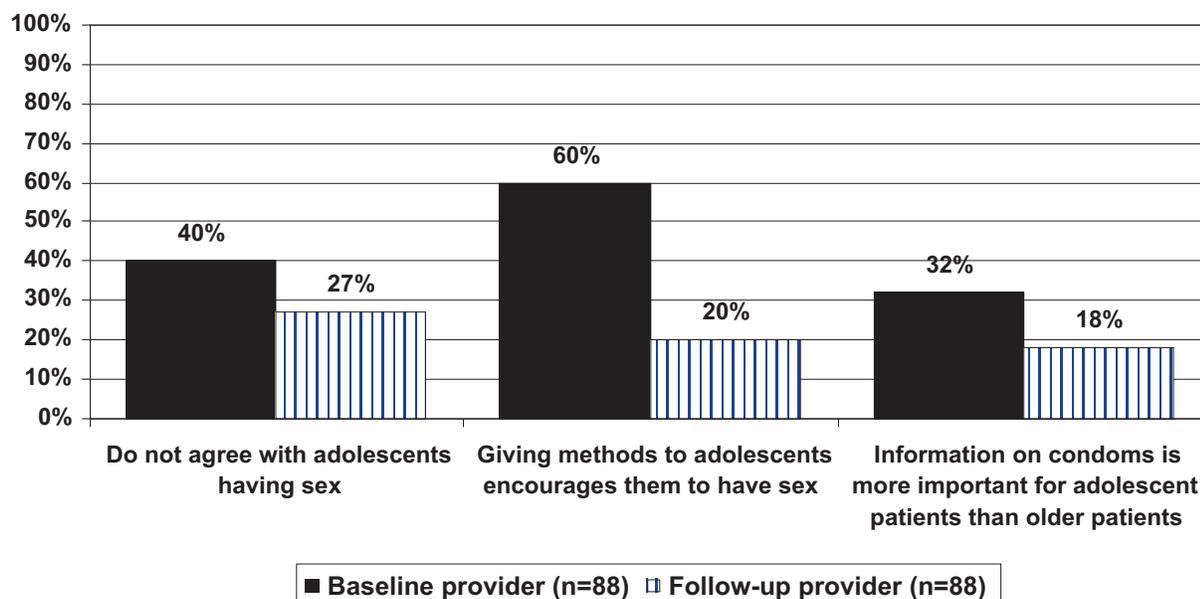
Figure 3.8. Provider and patient reports on counseling related to STI/HIV and postabortion complications



Changes in providers' attitudes towards adolescent PAC patients over time

A significant proportion of the provider training focused on giving providers the opportunity to reflect upon their attitudes and beliefs regarding adolescent PAC patients. Providers' attitudes seem to have changed over time (Figure 3.9). For example, at baseline 60% of providers endorsed the statement that discussing contraception with an adolescent will encourage them to have sex; however at follow-up only 20% of providers agreed with this statement.

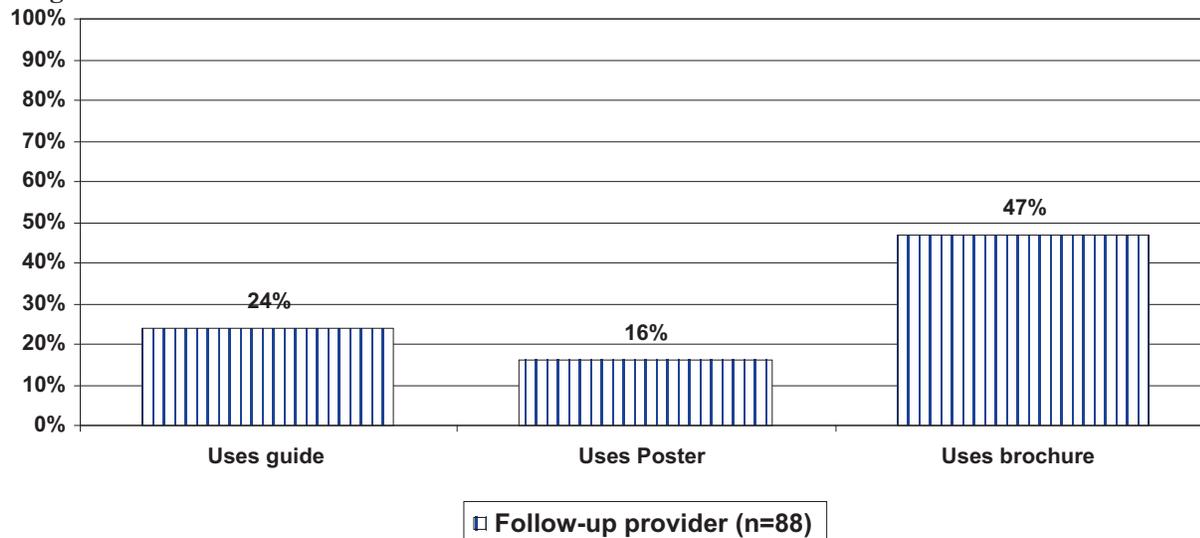
Figure 3.9. Providers' attitudes towards adolescents by time



Providers' use of intervention materials

Significant time and effort was spent developing the intervention materials. During the follow-up interviews we asked providers how often they utilized the materials that were developed. Approximately, 50% of providers reported they routinely used the patient brochure when counseling PAC patients (Figure 3.10). The poster and counseling guide were used less frequently by providers.

Figure 3.10. Provider's use of intervention materials



IV. Discussion

About 42% of PAC patients wishing to delay pregnancy were discharged with a contraceptive method. Adolescents and older women reported similar rates of having received PAC counseling messages. This finding pleasantly surprised us given the information available on PAC services in the DR; we anticipated their being larger gaps in counseling and contraceptive uptake between the two groups. Providers' PAC counseling knowledge and attitudes improved between the baseline and follow-up assessments; however providers' reported no changes in their counseling practices. Finally, a large percentage of providers utilized the patient brochure in counseling patients.

However, more work needs to be done to improve PAC counseling and contraceptive uptake for all women at the study hospitals. While few PAC patients were being discharged with a contraceptive method at the study hospitals prior to the intervention, and 40% of adolescent PAC patients and 45% of older patients were discharged with a contraceptive method after the intervention, this study still failed to meet its desired benchmark of 60% contraceptive uptake among women who wish to delay pregnancy. In addition, only half of the patients reported being counseled about their immediate risk of pregnancy and postabortion complications. Fewer than 15% reported being counseled on their risk for STI/HIV.

Our intervention efforts to improve contraceptive uptake met with less success than other efforts in Latin America that reported post-intervention contraception uptake of approximately 50% or greater among PAC patients.^{5,26,28} However, among adolescents the rate of uptake is similar to or higher than the contraceptive use rate in the general population.¹⁴ It could be that we set our benchmark of 60% too high given that PAC services were rarely offered at three of the four study hospitals prior to CONECTA's and our intervention efforts. At the final dissemination meeting, only one study hospital reported that some methods were available in the wards where patients recover. In addition, no condoms were available for distribution at any of the study hospitals. This is especially problematic for adolescent patients given that condom use is the second most popular method among unmarried sexually active women between the ages of 15 and 24, according to the 2002 DHS.¹⁴ PAC is an opportunity to give condoms to adolescents who already use them and to promote condom use among those who do not; this opportunity should not be wasted.

Despite our efforts to emphasize the importance of having methods available to PAC patients at all times, these changes were not institutionalized at three of the four study hospitals. Providers from these study hospitals who attended the final dissemination meeting reported that in order to prevent theft, contraceptives are often kept in locked cabinets, and in most instances only one staff person had access to the keys. The importance of sharing responsibility of the locked contraceptive supplies was discussed. The lack of availability of contraceptive methods to PAC patients in the wards where they recover most likely affected older women's contraceptive uptake more than younger women; 21% of older women reported they were not leaving the hospital with a method because the hospital did not have the method they wanted – as compared to 11% of adolescents. At the initial site assessment visits we assessed the study hospitals' readiness to provide contraceptive services to PAC patients. At the time of the assessment, all

sites had a variety of methods available at the family planning clinics that were co-located in the study hospitals. However, we did not monitor the contraceptive supplies in the study hospitals as the study progressed. While it is doubtful that could have rectified this problem alone, we could have tried to help find a solution to the problem or we could have suspended data collection until contraceptive supplies became available. Also, the intervention component of the study should have had a heavier emphasis on ensuring that logistical and managerial changes were made regarding contraception. While hospital administrators and key staff reported they understood the importance of immediate availability of contraceptive methods at all times, only one study hospital institutionalized these changes.

Adolescents and older women reported similar reasons for not leaving the hospital with a contraceptive method. For adolescents, the intention to use a method in the future and parental opposition were cited as reasons for not accepting a contraceptive method, while hospital-related factors and the belief they could not become pregnant played a larger role for older women. Both the intention to use a method in the future and hospital-related factors in part can be addressed by improved counseling efforts. Providers need to take advantage of every opportunity to remind women that their risk of pregnancy is immediate. Linkages to contraceptive services are critical for PAC patients,²⁹ and providers need to be reminded that one way to prevent repeat unplanned pregnancies and repeat abortions is to offer women contraception to meet their fertility needs.³⁰

This work illustrates that with appropriate training and institutional support interventions to improve PAC counseling can meet the needs of adolescent patients. Several factors influenced the lack of substantial differences between adolescent and older PAC patients in terms of contraceptive uptake and the other counseling they received. First, the synergies of efforts to improve essential and emergency obstetric care and to establish integrated adolescent care units at the study hospitals are likely to have contributed to the success of our efforts. Second, in developing the PAC counseling intervention, we contacted several organizations that implement PAC programs to gather their technical input. This input was important in designing our intervention efforts. Third, validating the intervention materials with adolescents themselves not only made the materials more youth friendly, but it sent a message to the study hospitals regarding the intention of our efforts. Fourth, while CONECTA had a leadership role in implementing and monitoring the intervention efforts, it enlisted and facilitated the support of the Ministry of Health, in particular the National Maternal/Child Health Directorate (DIGEMIA: Dirección General Materno-Infantil y Adolescentes). This support helped ensure the implementation of the intervention activities. This collaboration has led to recent expansion of the essential and emergency obstetric care efforts in other public facilities of the country with DIGEMIA assuming a leadership role in the expansion efforts.³¹ PAC will be part of these expansion efforts. All of the PAC counseling materials created for this study are available for use in expansion efforts as well.

There are some important limitations of this study. First, due to confidentiality concerns and logistical concerns (relatively low patient volume), we did not conduct direct observations of the counseling that PAC patients received. Therefore, we relied on the self-report of patients and providers which are subject to bias. For patients, recall bias would be related to the women's physical and mental state and would most likely apply to women's recollection of the counseling messages they received rather than their acceptance of a contraceptive method. For providers,

social desirability bias is a concern with regards to their reported PAC counseling practices. Other studies have shown that providers reported counseling practices are often different than their actual behavior.^{32,33} Therefore, the data presented here on providers' PAC counseling practices should be viewed with caution. A more comprehensive assessment of providers' practices may have yielded a more accurate assessment of their actual counseling practices. In addition, a more detailed look at whether the PAC patients understood the counseling messages would have provided a more comprehensive picture of the counseling practices. Third, as noted in the results, it appeared that some women were interviewed significantly prior to discharge and therefore might have ultimately received a method before they left the hospital. The estimates presented in this paper regarding contraceptive uptake among women wishing to delay pregnancy are therefore conservative. Fourth, condom use remains highly stigmatized in the DR. One provider at an adolescent clinic reported to us that youth rarely ask for condoms and only take them if they are offered to them. Therefore, we suspect PAC patients most likely underreported being counseled on condoms or accepting condoms. Fourth, our failure to monitor the contraceptive supplies and logistical changes to increase method availability in the study hospitals most likely influenced our project's success.

Future research should focus on examining of the sustainability of efforts to improve PAC counseling and contraceptive uptake among adolescent PAC patients. We are uncertain how sustainable the intervention efforts will be, especially when CONECTA and their support to the study hospitals ends. We began the follow-up data collection six months after the intervention efforts were put into place, and this data collection lasted for approximately six months. Another round of data collection would have enabled us to evaluate the sustainability of our efforts and to assess whether hospital staff used the findings from this first round of data collection to further improve counseling efforts. Another round of data collection would also have helped to determine whether staff changed managerial practices so that stock-outs of methods no longer occurred and contraceptive methods were available at all times to PAC patients.

Finally, significant efforts and resources were placed into developing the provider training and the IEC materials in order to make them "youth friendly" and to address providers' attitudes towards working with adolescent PAC patients. Changes in providers' attitudes and use of intervention materials, particularly the patient brochure, are evidence that our efforts were successful. Programs seeking to improve PAC counseling and contraceptive uptake should not overlook the needs of adolescents.

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