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The effect of consolidation of abortion services on patient outcomes

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Abstract

Background: In 2001, a service dedicated to family planning was created within a large public hospital to improve patient care services. This retrospective chart review demonstrates the benefit of focusing these services in a specialty clinic.
Study Design: A power analysis was performed and determined that a minimum of 136 charts were needed in each arm of the study to determine if, following an elective abortion, there was a significant increase in attendance at the scheduled postoperative visit. Secondary variables included analysis of contraceptive choice, incidence of continuation of injectable contraception and incidence of repeat pregnancy.
Results: After counseling services were initiated, there was a 27% increase in the number of patients returning for the postoperative clinic appointment within 8 weeks [32% (61/191) in 1998 vs. 59% (80/136) in 2001; p<.0001]. There was also a significant decrease in patients without a plan for contraception, 29% in 1998 vs. 11% in 2001, and a decrease in repeat pregnancies from 9% in 1998 to 1.5% in 2001. There was no difference in patient adherence with injectable contraception.
Conclusion: Consolidation of abortion services improves subsequent use of contraception and reduces incidence of repeat pregnancy.

Keywords: Abortion; Contraceptive adherence; Postoperative follow-up; Counseling

1. Introduction

Bellevue Hospital is a public hospital in New York City that serves immigrant populations from around the world. It is a teaching hospital and the clinics are staffed by resident physicians, physician assistants, nurse practitioners and nurse midwives with attending physician supervision. There is a high clinical volume in Obstetrics and Gynecology with approximately 500 patient visits per week in a variety of general and specialty clinics.

Before March 2000, women who desired an elective termination of pregnancy would be assigned to any available provider in the hospital's gynecology clinic. Follow-up appointments were scheduled for 2–6 weeks postoperatively, depending on provider preference. Typically, the patient usually encountered a different provider for their intake visit, their counseling, their surgery and their postoperative appointment.

The Reproductive Choice (RC) Service was begun in March 2000 to address the contraceptive and reproductive needs of the Bellevue population. Two dedicated senior health educators were hired to provide continuity of care and contraceptive counseling. Counseling took place on three separate occasions: prior to the procedure, the day of the procedure and at the 2-week postoperative visit. The patient usually encountered the same counselor at each of these visits.

The purpose of this study was to determine if the implementation of a specialized service and focused counseling were effective in improving patient outcomes by improving attendance at follow-up visits, increasing contraception use and decreasing the rates of future unwanted pregnancies.

2. Materials and methods

Institutional review board approval was obtained from the Bellevue Hospital Research Protocol Review Group to conduct a chart review of patients who had had voluntary

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Table 1
Overall follow-up data

	Total	No F/U	≤8 weeks	>8 weeks	p value
1998 data	191	114 (59.7%)	61 (31.9%)	16 (8.4%)	<.0001
2001 data	136	50 (36.8%)	80 (58.8%)	6 (4.4%)	

terminations of pregnancy at Bellevue Hospital before (in 1998) and after (in 2001) the initiation of a comprehensive RC Service. In 1998, there were 469 abortion procedures performed, but only 191 charts that had enough information retrieved to be included in the study. In 2001, all 679 patients who had abortions performed had adequate information retrieved for inclusion in the study. All women who underwent elective surgical terminations of pregnancy up to 24 weeks of gestation in 1998 and 2001 were included in the study; early medical terminations were not being offered. Subjects were excluded if they had a missed abortion, a molar pregnancy or an embryonic or fetal demise. Subjects also were excluded if there was no operative report or documentation of follow-up care at Bellevue Hospital.

The primary end point was attendance at the follow-up visit within eight weeks of the surgical abortion procedure. In 1998, there was no standardized number of weeks for a follow-up appointment, and the appointments given ranged from 2 to 6 weeks post procedure. In 2001, all patients had a scheduled 2-week postoperative appointment made before being discharged after the completion of their procedure. Follow-up visits until 8 weeks following the procedure was the time chosen because that gave 2 additional weeks beyond the latest postoperative appointment (6 weeks) that was given in 1998. The assumption was made that, if a patient came to the hospital after 8 weeks, she was returning for a different issue. Secondary end points included choice of birth control following the procedure, adherence to depot medroxyprogesterone acetate (DMPA) injectable contraception for 1 year and repeat pregnancies within 1 year.

Power analysis was performed to determine the number of patients needed in each study group using patient attendance at the postoperative visit as the primary outcome. It was determined that a minimum of 136 patients in each study group was needed to detect a 2.9-fold difference in follow-up, with a power of 90% and an alpha level of .0025. There was a total of 191 records in 1998 that had enough information in the charts to analyze. The decision was made to use all of these charts in the final analysis in order to maximize the information we could analyze from 1998. The 679 charts from 2001 were randomized by using transition mapping of randomized sequences based on the Von Newman skew correction algorithm, generated by software obtained from the Web site www.random.org and the first 136 charts from the random sequence generated were used for analysis. A chi-squared test for categorical variables comparing both populations was used during the statistical analysis.

Table 2
Descriptive characteristics of the study participants

Characteristic	1998 [mean (S.D.)]	2001 [mean (S.D.)]	p value
Age at pregnancy, years	26.6 (6.6)	30.4 (7.0)	.0001
Gravidity, *n*	3.4 (2.3)	3.4 (2.1)	.97
Parity, *n*	1.5 (1.5)	1.9 (1.2)	.01

Table 3
Contraception methods reported by study participants

Contraception method	1998 [*n* (%)]	2001 [*n* (%)]
None/no record	55 (28.8%)	15 (11.0%)
Oral contraceptive	63 (33.0%)	49 (36.0%)
DMPA	57 (29.8%)	43 (31.6%)
Intrauterine device	5 (2.6%)	19 (14.0%)
Condom	7 (3.7%)	5 (3.7%)
Bilateral tubal ligation	3 (1.6%)	5 (3.7%)
Diaphragm	1 (0.5%)	0 (0%)
p value	<.0001	

3. Results

The two groups of data varied significantly in the incidence of total follow-up visits within 8 weeks following the termination of pregnancy (Table 1). At 8 weeks post procedure, only 61 (32%) of 191 patients in the 1998 group compared to 80 (59%) of 136 patients in the 2001 group kept their postoperative appointments (p<.0001). Many women from both groups never returned for any follow-up visit: 114 (60%) of 191 of the 1998 cohort vs. 50 (37%) of 136 from 2001. This increase in follow-up was statistically significant with p<.0001.

In addition, the group from 1998 was younger than the 2001 cohort (26.6 vs. 30.4 years, p=.0001), but the gravidity was similar (3.4, S.D.=2.3; 3.4, S.D.=2.1; p=.97), and the parity was slightly higher in 2001 (1.5 vs. 1.2, p=.01) (Table 2). There was no data on race or ethnicity in the 1998 charts, and therefore, this was not analyzed for either of the cohorts.

In terms of contraceptive plan, the percentage of women who were categorized as "Undecided/None/No record" in the 1998 group (55/191; 29%) was significantly less in the 2001 group (15/136; 11%). Specifically, the use of the intrauterine device (IUD) was significantly higher at 14% in 2001, compared to the 3% of women who chose the IUD in 1998 (p<.0001) (Table 3).

Table 4
DMPA follow-up injection data

	Initial DMPA injection	Received any follow-up injections [*n* (%)]	Did not receive any follow-up injections [*n* (%)]	p value
1998 data	57	17 (29.8%)	40 (70.2%)	.46
2001 data	43	10 (23.3%)	33 (76.7%)	