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Continuation Rates Among Injectable Contraceptive Users

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Few published data exist on the ongoing use of depot medroxyprogesterone acetate, the injectable contraceptive. Women who obtained the injectable from Planned Parenthood of the Rocky Mountains between January 1993 and March 1995 were followed to ascertain continuation rates for the method. Of the 5,178 women who received an initial injection, only 57% returned for a second administration; 63% of those who returned for their second injection went on to receive a third. The overall one-year continuation rate was 23%. No significant differences in continuation rates were found based on age, race or payment type.

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The injectable contraceptive method depot medroxyprogesterone acetate (DMPA), used worldwide for more than 20 years, was approved for use in the United States in late 1992.[1] The hormonal injection provides contraceptive protection for three months, drastically reducing the compliance difficulties encountered with use of oral contraceptives and coital-dependent barrier methods. It is thus a particularly useful method for adolescent women, who are typically inconsistent users of coital-dependent methods or those requiring daily use.[2] Indeed, one study found that 30% of injectable users were younger than 21, and that more than three-quarters were unmarried.[3] DMPA's contraceptive efficacy has been well established (less than one pregnancy per 100 women-years of use[4]), and at a cost of approximately $30-$40 per injection, it is a reasonably affordable method.

Despite its widespread use, there are few published data on DMPA continuation rates. One Australian study of 70 patients found a one-year continuation rate of 39%,[5] while an Indonesian study recorded rates of 60% at one year, 42% at two years and 29% at three years of use.[6] Although one U.S. study reported annual continuation rates of 75-80% among DMPA users,[7] little is known about current patterns of injectable use among American women. Such information is necessary to determine the feasibility and cost-effectiveness of this long-term contraceptive choice.[8] The purpose of this research note is to report on one-year continuation rates among a cohort of women who began using the injectable contraceptive between 1993 and 1995.

METHODS AND SUBJECTS

Planned Parenthood of the Rocky Mountains began providing the injectable contraceptive on January 2, 1993. Women who received a contraceptive injection between this date and March 31, 1995, were provided with a unique numerical identifier that allowed tracking of individual patients over repeat visits for DMPA injections. The women's date of birth, race and payment type and the clinic location were recorded, but additional information from patient records was not required. Patient anonymity was assured.

All clinic sites followed the manufacturer's recommended protocol of one injection at least every three months (approximately 14 weeks or 98 days).[9] Continuation rates were calculated based on return visits that occurred between 60 and 105 days from the previous visit. Repeat injections were those that occurred prior to or up to one week following the 98th day after a woman's previous injection. Women who received repeat injections after 105 days were recorded as having discontinued use; they were considered to be at risk for pregnancy and were provided with pregnancy tests. These women re-entered the study, and the repeat injection was recorded as an initial use.

Overall continuation rates were calculated using the number of injections for which patients were eligible, based on the length of time they had been enrolled in the study. For example, a patient enrolled four months prior to study completion would be eligible for two injections. The intervisit continuation rate was calculated as the number of women eligible for their next injection who actually received it. The one-year continuation rate was calculated as the product of the first three intervisit continuation rates.

RESULTS

The sample consisted of 5,178 women who received a total of 11,220 DMPA injections. Characteristics of these women are presented in Table 1 (page 276). A majority of the cohort was white (79%), and 64% were older than 22. Ten percent of the women in the sample were reimbursed for services through Medicaid.

Table 1. Percentage distribution of women receiving depot medroxyprogesterone acetate (DMPA), by selected characteristics, Planned Parenthood of the Rocky Mountains, Jan. 1993-Mar. 1995 (N=5,178)

Characteristic	%
Race/ethnicity	
White	78.4
Black	4.3
Hispanic	12.0
Asian	3.2
Other	2.1
Age	
¾18	10.9
19-22	25.3
23-30	44.8
>30	19.0
Payment type	
Medicaid	10.5
Self pay	85.7

Other	3.8
Total	100.0

All women received at least one injection. Of these, 41% discontinued use or were lost to follow-up after the initial injection, and 4% were not eligible for further injections. A second injection was administered to 2,813 women; 35% were lost to follow-up or discontinued use, and 6% were not eligible for a third injection. Of the 1,662 women who received a third injection, 32% discontinued or were lost to follow-up, and 8% were not eligible to continue. Thus, 995 women received a fourth injection. The mean time between injections was 84 days, with a standard deviation of 6.0 days (the respective median values were 85 and 6.6 days).

Figure 1 presents overall and intervisit continuation rates. The one-year continuation rate for injectable users was 23%. Fifty-seven percent of the women who received a first injection returned for their next visit. The intervisit continuation rate increased to 63% between the second and third visits, and to 65% between the third and fourth visits.

Intervisit continuation rates were somewhat higher for visits occurring subsequent to the first year of method use. The mean intervisit continuation rate among users during the first year of the study was approximately 62%. However, 66% of women receiving a fourth injection went on to receive a fifth, nearly 68% of these women obtained a sixth injection, and over 75% of this group received their seventh DMPA injection.

There were no statistically significant differences in continuation rates based on clinic site or the women's age, ethnicity or payment type. As part of Planned Parenthood's routine internal tracking system, a sample of approximately 200 women who discontinued use after their first injection were followed. Among these women, difficulty tolerating side effects was the main reason for terminating use. Twelve percent of this sample were reported as lost to follow-up. Because our data were obtained by codes that were not linked to women's medical charts, no further identification of continuation within Planned Parenthood was possible.

DISCUSSION

Overall continuation rates for DMPA in the population described here are very low. Fifty-seven percent of users returned for their second injection, and only 23% of those eligible for a full year of contraceptive protection (four injections) obtained all four. In comparison, one-year continuation rates for other forms of contraception vary from 70-90% for oral contraceptives, 74-82% for the IUD, and 87-92% for the implant.[10]

In our study, poor continuation between the first and second injection was followed by slightly improved intervisit continuation rates across successive intervals. This group of users may represent women who have few side effects or who are better able to tolerate the side effects associated with progestin-only hormonal contraceptives. Since no significant differences in DMPA continuation rates were found between sites, it is unlikely that site-specific counseling practices had an impact on continuation rates. Although the Planned Parenthood providers had no previous experience with the injectable, they generally had positive attitudes toward its use.

A significant limitation of the study reported here is the high attrition rate at these family planning clinics, where the overall yearly retention rate for all patients is

approximately 60-65%.[11] If we were to assume that all injectable users who did not return to Planned Parenthood from one year to the next went on to receive an injection elsewhere, the one-year continuation rate for the entire sample would still remain at less than 70%. It is, however, highly unlikely that all of the women who left these clinics obtained DMPA elsewhere. Although one study found that as many as 77% of patients not returning to a county family planning program were still practicing contraception 1-3 years after discontinuing at that program,[12] in another study fewer than half of a group of adolescents returned to refill their oral contraception prescription, and none of those contacted after not returning reported continued use of the pill.[13]

A second limitation of the study is that the findings are based on a selected group of women: those attending family planning clinics. Thus, the present findings may not be generalized to other populations, such as women obtaining contraceptive services from private physicians. Continuation rates are likely to differ within a private primary care setting.

Careful identification of those women who actually desire long-term contraception is an important step toward improving continuation rates. For women who desire long-term contraception, reminder postcards or phone calls have been found to be an effective strategy to enhance continuation.[14] However, this approach might prove impractical among younger women, who may not want parents or partners to know of their contraceptive practices. Improving access to clinics that provide DMPA might also improve continuation rates, especially for younger women. The availability of DMPA in school or weekend clinics, or making DMPA available for self-injection, might assist some women in overcoming obstacles to continuing method use. Expanding counseling to fully address side effects would also be useful.

In general, the continuation rate for DMPA in the population that we studied is poor. However, our findings are preliminary. We believe that the injectable is a valuable alternative for women desiring long-term contraception. Further research on continuation rates and on strategies to improve user continuation and decrease side effects is necessary so that women seeking contraception can receive optimal care.

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