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## Improved continuation rate of Depot-Medroxyprogesterone acetate in adolescent mothers

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**Abstract:** Poor compliance and high discontinuation rates of Depot-Medroxyprogesterone Acetate (DMPA) and other contraceptive methods are major factors in the continuing problem of adolescent pregnancy. In this study we attempted to determine if providing comprehensive health care for teen mothers and their babies would improve continuation rates of DMPA. Patients who started DMPA between 1/1/96 and 1/1/99 were included. Teen mothers and their babies received all their health care in this clinic, supported by State funding. Key elements regarding DMPA in this clinic were continuity of care, phone and mail reminders of appointments, free DMPA for patients without insurance, counseling at each visit and available evening clinic. In the study period a total of 299 (age 13-22 years) patients were started on DMPA. Fifty-one percent were white, 47% black and 2% others. Sixty-three percent were single, 20% married, 3% cohabitating and 14% undetermined (missing data). Seventy-eight percent had one baby and 22% more than one. A total of 189 patients (63.2%) continued to be compliant after one year of use and 101 patients (33.8% of total) continued beyond the second year. The most common side effect reported was bleeding or spotting (32%), However only seven patients (2.3%) discontinued use because of it. It is concluded that continuity of care (same staff and providers on each visit), regular counseling, flexible hours (evening appointments), financial ease (free DMPA and no visit charge for those without insurance), combined Teen-Tot health visits and regular reminders of appointments may help improve compliance and continuation rates in teen mothers leading to better success in preventing repeat teen pregnancy.

**Keywords:** Adolescence, adolescent contraception, injectable progesterone, Depot Provera, teenage mothers, United States

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### INTRODUCTION

In a recent prospective study in adult women, continuation rates for DMPA were reported to be 68%, 67%, 55% and 51% at 3, 6, 9 and 12 months respectively (1). Previous studies showed various 12-month continuation rates, ranging from 23 to 61% (2-6). In adolescents, DMPA continuation rates are even lower (7,8). Pretreatment counseling was found to enhance compliance and improve continuation rates of DMPA use (9). Other factors related to the

providers approach to the patient also played a role in continuation of DMPA (1). Menstrual changes are usually the most common reasons for discontinuation of the method (1,9). In this study, we reviewed the clinical data in regard to DMPA in our Young Parent Program in order to assess continuation rates.

### METHODS

A retrospective review of clinic data in regard to DMPA use and continuation was

done. Patients started on DMPA on or after 1/1/1996 were included. Total number of patients included in the study was 299. See Table 1 for demographics. The Young Parents Program Clinic in which these patients are enrolled provides comprehensive services that are different from most conventional primary care clinics. The Young Parents Program Clinic:

- Provides comprehensive care: for both teen mother and her baby. This includes preventive care, reproductive services, mental health and acute care visits. We also provide care for siblings of the teen as well as family counseling.
- Continuity of care: patients are seen by the same staff and attending physicians on each visit.
- Flexible hours: including evening clinic to allow teens to attend school or work during the day.
- Financial incentives: patients with no insurance are given DMPA free of charge and no visit charge is applied if they cannot afford it.
- Counseling is provided prior to the start of any birth control method and at each visit.
- Telephone and/or mail reminders of clinic appointments are routinely utilized.

Table 1. *Demographic characteristics of patients included in the study.*

Mean Age	17.75 years
Standard Deviation	1.56 years
Median	17.94 years
Age Range	13-22 years
White	51%
Black	47%
Others	2%
Single	63%
Married	20%
Cohabiting	3%
Undetermined	14%
≥ 1	78%
> 1	22%

## RESULTS

Continuation rate of DMPA after 12 months was 63.2%. 33.8% of patients were still using DMPA at 24 months and 15% are still continuing after 36 months. This percentage rate at 36 months would probably be higher when patients of more than 24 and less than 36 months are added. Seven percent of patients have completed 48 months. The most common adverse side effect reported was spotting or bleeding, which was present in 32% of patients, however only seven patients (2.3%) patients discontinued use because of it.

Other side effects such as headaches, mood changes and weight gain were reported in 2%, 4% and 31% respectively, but were addressed during each visit and counseling and education provided. None of the patients discontinued use because of these side effects. A desired side effect for many patients was amenorrhea, which was present in 47% of patients. It was not listed as an adverse side effect, since many patients considered it a convenience rather than an annoyance.

## DISCUSSION

This study looked at a special group of patients in a special setting. The Young Parents Program is one of the few programs in the country that provides care to the mother and baby at the same time. Many adolescent mothers are more likely to miss an appointment for themselves, but are more compliant when it comes to their babies. Having simultaneous appointments allows these patients to save time and effort as well as financial savings related to transportation expenses and missing work or school.

Another factor that helps compliance is the evening clinic, which allows these patients to avoid problems with their work or school. A significant positive influence on the patients is the continuity of care, which puts them at ease and makes it easier

to ask questions and to call if they have any doubts about their birth control or any other issue. All visits are physician visits with education and counseling provided prior to the start on DMPA and on each consecutive visit. Counseling usually provides detailed and honest information on all possible health benefits as well as adverse effects, which also helps compliance as in other studies (1). Many adolescents, just as adults, tend to forget appointments especially when they are 2-3 months away. In our clinic a dual system of telephone and mail reminders is utilized and a simultaneous appointment for both mother and baby is provided almost always. In addition, our patient population can obtain all health care needs in the clinic, including mental health counseling and treatment allowing even more reduction of lost time and effort moving from clinic to clinic to obtain different services.

Most adolescent mothers have some degree of financial difficulty that interferes with their access to health care as well as their compliance. In our clinic financial counseling is also routinely provided to help patients utilize available State and Federal resources for health insurance and when neither is available, visit and medication charges are waived. All these factors are responsible for the much higher rate of compliance noted here compared to previous reports (1-8).

It has been reported that menstrual disturbances were the main culprits for discontinuation of DMPA (1,9). In this study, bleeding was responsible for discontinuation in only seven patients (2.3%) that had heavy bleeding. Most patients with spotting and intermittent bleeding were able to continue DMPA use.

## CONCLUSION

Continuity of care, regular counseling, flexible hours, financial incentives, combined teen-tot visits and regular reminders of

appointments may help to improve DMPA continuation rates in teen mothers, which leads to reduction in repeat pregnancy.

## ACKNOWLEDGEMENTS

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## BITS 'N PIECES

### Financial cost of social exclusion: follow up study of antisocial children into adulthood

**Objectives:** To compare the cumulative costs of public services used through to adulthood by individuals with three levels of antisocial behaviour in childhood.

**Design:** Costs applied to data of 10 year old children from the inner London longitudinal study selectively followed up to adulthood.

**Setting:** Inner London borough.

**Participants:** 142 individuals divided into three groups in childhood: no problems, conduct problems, and conduct disorder.

**Main outcome measures:** Costs in 1998 prices for public services (excluding private, voluntary agency, indirect, and personal costs) used over and above basic universal provision.

**Results:** By age 28, costs for individuals with conduct disorder were 10.0 times higher than for those with no problems (95% confidence interval of bootstrap ratio 3.6 to 20.9) and 3.5 times higher than for those with conduct problems (1.7 to 6.2).

Mean individual total costs were £70 019 for the conduct disorder group (bootstrap mean difference from no problem group £62 898; £22 692 to £117 896) and £24 324 (£16 707; £6594 to £28 149) for the conduct problem group, compared with £7423 for the no problem group. In all groups crime incurred the greatest cost, followed by extra educational provision, foster and residential care, and state benefits; health costs were smaller. Parental social class had a relatively small effect on antisocial behaviour, and although substantial independent contributions came from being male, having a low reading age, and attending more than two primary schools, conduct disorder still predicted the greatest cost.

**Conclusions:** Antisocial behaviour in childhood is a major predictor of how much an individual will cost society. The cost is large and falls on many agencies, yet few agencies contribute to prevention, which could be cost effective.

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