

## Contraceptive services for teenagers: do we need family planning clinics?

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### Abstract

**Objective**—To determine whether the effectiveness of contraceptive services for teenagers is related to the balance of service provision between general practitioners and specialist family planning services.

**Design**—Cross sectional study with routinely collected data from family planning clinics and family health services authorities and published data on births and abortions.

**Setting**—Eight health districts in the former Oxford region.

**Subjects**—Girls aged under 16 and women aged 16-19 who attended a contraceptive service during 1991-2 or who gave birth or had an abortion during 1990-2.

**Main outcome measures**—Attenders at family planning clinics as a percentage of all users of contraceptive services. The conception rate:uptake of contraceptive services ratio was used as a measure of effectiveness.

**Results**—In comparisons between districts the percentage of all users of contraceptive services who attended a clinic varied from 38% (95% confidence interval 28% to 48%) to 79% (72% to 86%) among 13-15 year olds and from 14% (12% to 15%) to 44% (42% to 46%) among women aged 16-19 years. The conception rate:uptake of contraceptive services ratio varied twofold in the older age group and more than threefold in the younger age group. It was lowest in districts where clinic attenders comprised a large percentage of all users of contraceptive services.

**Conclusion**—Contraceptive services for teenagers may be more effective in districts where clinics play a large part in delivering the service, particularly for girls aged under 16.

### Introduction

In 1992 the NHS Management Executive published guidelines for reviewing family planning services.<sup>1</sup> The guidelines emphasised the need for an appropriate balance between services provided by general practitioners and those provided by family planning clinics, although they did not suggest what an appropriate balance might be. Young people were identified as a group with relatively poor uptake of contraceptive services, and their need for separate, less formal family planning arrangements was emphasised. Later that year the government set a target of a 50% reduction in the rate of conception among girls under 16 years over the period 1989 to 2000.<sup>2</sup>

This study was performed as part of a review of family planning services in the former Oxford region. It dealt with two questions concerning contraceptive services for young women aged 13-19 years. Firstly, what was the balance of service provision between

general practitioners and family planning clinics in each district in 1991-2? Secondly, does the effectiveness of the service depend on this balance?

### A NOVEL METHOD FOR MEASURING THE EFFECTIVENESS OF CONTRACEPTIVE SERVICES

Guidelines published recently by the faculty of public health medicine point out that an effective contraceptive service should both attract a large proportion of sexually active teenagers and ensure a low rate of conception among users of the service.<sup>3</sup> This should be reflected in a low value of the conception rate:uptake of contraceptive services ratio among populations which have an effective service. The main advantage of using this ratio as a measure of effectiveness is that it is independent of variations between populations in the proportion of teenagers who are sexually active. This is so because both the numerator and the denominator of the ratio vary in proportion to the prevalence of sexual activity; the effect of this latter variable is therefore eliminated when the ratio is calculated. The main limitation of the ratio is that the numerator is influenced by the use of condoms obtained from non-medical sources such as chemists' shops and vending machines. This must be borne in mind when interpreting the ratio.

### Methods

For each district the numbers of births and terminations of pregnancy in each age group during the three year period 1990-2 were obtained from published sources from the Office of Population Censuses and Surveys.<sup>4,5</sup> The number of conceptions in each age group was obtained by adding births and terminations, incorporating a correction for the increase in maternal age between conception and delivery.<sup>6</sup> This correction is particularly important when estimating the number of conceptions among girls aged 13-15 years because many babies born to women aged 16 were conceived when the mother was 15.

Providers of contraceptive services were considered in two categories: general practitioners and all other providers. The latter comprised mostly NHS family planning clinics but also included any specialist services for young people and non-NHS family planning clinics. The four family health services authorities in the region determined the number of district residents in each age group for whom a general practitioner was receiving an item of service payment for contraceptives in April 1992 ( $n^{GP}$ ). The numbers of women who attended NHS family planning clinics in each district between April 1991 and March 1992 were obtained from Korner forms KT31. In each district a family planning doctor confirmed that the Korner returns were accurate and identified any providers of contraceptive services in their district whose activity was not included on their Korner return. One NHS

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youth advisory service and one non-NHS family planning clinic were thereby identified. Both these services provided data for 1991-2 comparable with that provided on the Korner forms. These data were added to the Korner data to obtain the total uptake of contraceptive services from clinics within each age group in each district ( $n^{\text{clinic}}$ ).

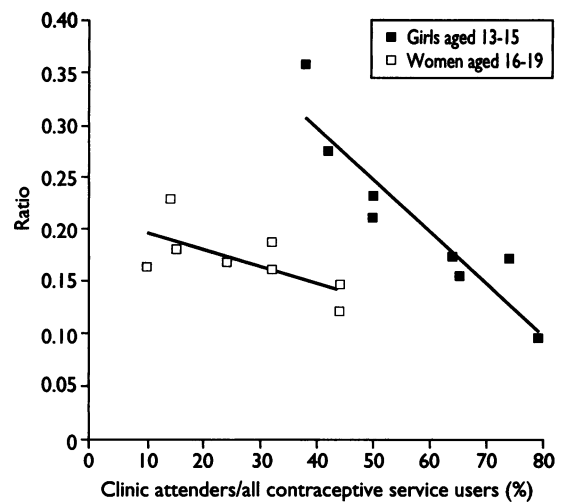
A survey was carried out over eight weeks in one district (district E) in 1991 to determine how many teenage attenders of clinics were not district residents and how many clinic attenders were also registered with a general practitioner for contraceptive advice.

The number of women in each population who were using contraceptive services was calculated as  $n^{\text{GP}} + n^{\text{clinic}}$ . Clinic attendance as a percentage of total attendance at contraceptive services was calculated as  $n^{\text{clinic}} / (n^{\text{GP}} + n^{\text{clinic}})$ . Rates of service uptake and conception rates were calculated by using 1991 midyear female population estimates from the Office of Population Censuses and Surveys as denominators. For both age groups considered the relation between clinic attendance as a percentage of total attendance and the conception rate:uptake of contraceptive services ratio was assessed by using Pearson's correlation coefficient. To assess the possible confounding influence of socioeconomic factors Pearson's correlation coefficients were also calculated for the relation between underprivileged area scores based on the 1991 census<sup>7</sup> and the conception rate:uptake of contraceptive services ratio.

## Results

There were large differences between districts in the proportion of users of contraceptive services who attended a clinic (table). Among girls aged 13-15 years this varied from 38% to 79% and among women aged 16-19 years from 14% to 44%. There were also large variations in the conception rate:uptake of contraceptive services ratio. Among girls aged 13-15 years this ratio varied from 0.10 to 0.36 and among women aged 16-19 years from 0.12 to 0.23. The ratio was significantly correlated with the proportion of users of contraceptive services who attended a clinic, among both 13-15 year olds (Pearson correlation coefficient = -0.89;  $P=0.002$ ) and 16-19 year olds (-0.72;  $P=0.04$ ). The gradient of this relation was steeper in the younger age group (figure). There was no significant relation between the conception rate:uptake of contraceptive services ratio and Jarman scores among either 13-15 year olds (0.25;  $P=0.55$ ) or 16-19 year olds (0.49;  $P=0.22$ ).

During the eight week survey in district E, 334 women aged 13-19 years attended a family planning



Relation between conception rate:uptake of contraceptive services ratio and proportion of users of contraceptive services who attended a clinic

clinic. Of these, 43 (13%) said they were currently registered with a general practitioner for contraceptive advice, and 40 (12%) gave a home address that was outside the district.

## Discussion

This analysis shows that among health districts in the former Oxford region there are noticeable variations in the way contraceptive services for teenagers are delivered. In some districts family planning clinics and related specialist youth services play a large part, but in others the service is provided mainly by general practitioners. If the conception rate:uptake of contraceptive services ratio is used as a measure of effectiveness it seems that districts where clinics play a major part have a more effective service overall.

This study is the first attempt to measure quantitatively the relation between the way in which contraceptive services are provided and their effectiveness. Until recently there have been two main obstacles to such a study. Firstly, there has been no practicable measure of the effectiveness of contraceptive services. Secondly, it has been difficult to obtain data about contraceptive services provided by general practitioners. It is only in recent years that family health services authorities have been encouraged to share data with district health authorities. Without this cooperation it is difficult to obtain a comprehensive picture of provision of contraceptive services. Several studies have used population postal surveys to obtain an overview of contraceptive services provided by both

Attendance at contraceptive services, numbers of pregnancies, and conception rate:uptake of contraceptive services ratio among teenage women in eight health districts

District	No attending general practitioner, 1991-2 (rate per 100 population per year)	No attending clinics, 1991-2 (rate per 100 population per year)	No of conceptions, 1990-2 (rate per 100 population per year)	Clinic attenders/all contraceptive service users (%) (95% confidence interval)	Conception rate: contraceptive service uptake	Underprivileged area score, 1991
<i>Girls aged 13-15 years</i>						
A	28 (1.0)	107 (3.9)	39 (0.48)	79 (72 to 86)	0.10	-21.4
B	83 (1.0)	240 (2.9)	167 (0.68)	74 (70 to 79)	0.17	-17.7
C	120 (1.3)	216 (2.3)	175 (0.61)	64 (59 to 69)	0.17	-7.8
D	66 (1.0)	121 (1.9)	87 (0.45)	65 (58 to 72)	0.16	-8.8
E	102 (1.7)	101 (1.7)	141 (0.79)	50 (43 to 57)	0.23	-10.2
F	119 (2.4)	119 (2.4)	151 (1.01)	50 (44 to 56)	0.21	-7.3
G	40 (0.7)	29 (0.5)	57 (0.35)	42 (30 to 54)	0.28	-27.6
H	58 (1.5)	36 (0.9)	101 (0.89)	38 (28 to 48)	0.36	-4.0
<i>Women aged 16-19 years</i>						
A	950 (24.6)	743 (19.2)	619 (5.33)	44 (42 to 46)	0.12	-21.4
B	2586 (21.1)	2013 (16.4)	2013 (5.47)	44 (42 to 45)	0.15	-17.7
C	3588 (24.2)	1711 (11.6)	2550 (5.74)	32 (31 to 34)	0.16	-7.8
D	2072 (22.5)	967 (10.5)	1701 (6.15)	32 (30 to 33)	0.19	-8.8
E	2787 (32.6)	874 (10.2)	1846 (7.19)	24 (22 to 25)	0.17	-10.2
F	2901 (40.5)	326 (4.6)	1592 (7.41)	10 (9 to 11)	0.16	-7.3
G	1633 (20.9)	287 (3.7)	1040 (7.43)	15 (13 to 17)	0.18	-27.6
H	1621 (32.3)	259 (5.2)	1295 (8.60)	14 (12 to 15)	0.23	-4.0

clinics and general practitioners.<sup>9,9</sup> Unfortunately such surveys have generally achieved response rates below 50%, making any quantitative analyses unreliable. By using routinely collected health service data about women who use contraceptive services the problem of poor response rates can be overcome.

There remain, however, two problems with routinely collected data. Firstly, whereas the data from the family health services authority relate to resident populations, those collected by family planning clinics relate to catchment populations. Secondly, women who seek contraceptive advice from both a general practitioner and a family planning clinic in the same year may be counted twice when the numbers attending each service are added. The survey in district E suggests that these problems are relatively small in relation to the large variations in service provision that were found in this study. The small proportion of teenage attenders at clinics who travelled from outside the district (12%) probably reflects the geography of the region, where populations tend to be concentrated in towns at some distance from district borders.

It is impossible to rule out the effects of confounding variables in this study because it was based on observational data from a sample of only eight districts. It is possible that socioeconomic factors could partially explain the observed relation between the way services are provided and their apparent effectiveness. The relation between underprivileged area scores and the conception rate:uptake of contraceptive services ratio, however, is relatively weak and not significant. Other possible confounding variables include the willingness of teenagers to use contraceptive services (regardless of which agency provides them) and the use of condoms obtained from non-medical sources. There are two main reasons for thinking that the relation between the way contraceptive services are provided and the conception rate:uptake of contraceptive services ratio may be causal. Firstly, the relation is strong: among girls under 16 a twofold increase in the proportion of service users who attended a clinic was associated with a threefold decrease in the ratio. Secondly, a causal interpretation is consistent with research on young women's views on contraceptive services. The qualities they regard as most important are confidentiality and a friendly reception, and they think they are more likely to find such qualities at a family planning clinic than with a general practitioner.<sup>10</sup> If the relation described in this paper is indeed causal, future analyses in the region should detect a decrease in the ratio in those districts which have recently increased their provision of clinics for young people.

In times of financial difficulty health authorities may be tempted to cut spending on family planning clinics if they regard them as a duplication of the service provided by general practitioners. This study suggests that although many teenagers do attend a general practitioner for contraceptive advice, family planning

### Key messages

- Effective contraceptive services are essential for preventing unwanted pregnancies in teenagers
- Health districts can use the conception rate: uptake of contraceptive services ratio to measure the effectiveness of their contraceptive services for teenagers
- Districts in which clinics play a major part seem to have a more effective contraceptive service for teenagers than those in which the service is provided mainly by general practitioners
- Districts that provide only a few clinics and have a high value of the ratio described should consider purchasing additional clinics for young people

clinics are an essential component of an effective contraceptive service for teenagers. Other districts could easily use the methods described here to evaluate their contraceptive services. If districts with relatively little provision of clinics for this age group chose to invest in contraceptive services they could probably prevent a large proportion of unwanted pregnancies in teenagers, particularly in girls aged under 16.

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## ONE HUNDRED YEARS AGO

### THE SADDLE OF THE LADY'S BICYCLE.

That bicycling undertaken in moderation is conducive to health and vigour in women is now undisputed. The French physicians have pronounced decidedly in its favour, and M. Lucas-Championnière is a warm advocate of women bicycling. The fatigue in moderate bicycling is slight, the muscles are exercised, and the lungs are well inflated. The charm of the "wheel" is moreover so great that it induces women, who would otherwise be indolent, to take healthful exercise and long runs into the country. There is, however, still one desideratum in order to make

bicycling quite safe for women, and that is a satisfactory saddle adapted to the anatomical necessities of the case. In bicycling the body is often tilted forwards, and in the pressure brought to bear on the treadles and steering rod, the weight of the trunk is thrown on to the peak of the saddle, which thus gives direct support to the lower rim of the pelvis. The position is an unnatural one, and may, combined with the incessant movement of the legs, cause irritation and discomfort, if not more serious mischief. The correct saddle has yet to be devised for women bicyclists, and it would be well for bicycle manufacturers to give their attention to this detail. (*BMJ* 1895;ii:551.)