

The Clinical Effectiveness of the Rhythm Method of Contraception

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A CONTRACEPTIVE clinic prescribing the rhythm method was established in 1936 at the Free Hospital for Women in Brookline, Massachusetts. It is attended by women mostly from the lower income brackets and the educational level of the patients corresponds to their economic status. The majority are Roman Catholics to whom other methods of contraception are forbidden by their church. The present report covers all women who have attended the Rhythm Clinic since its establishment and includes, therefore, the cases discussed by Fleck *et al.* in 1940.

The method of calculating the fertile period in this clinic has been described by Fleck. "The sixteenth to twelfth days inclusive before the next expected menstruation constitute for us the period during which ovulation may occur. An admittedly generous allowance of three days before and after this period is added for the viability of spermatozoa and susceptibility of ova, respectively. The theory may be expressed thus: The fertile period extends from and including the nineteenth day before the *earliest* likely menstruation up to and including the ninth day before the *latest* likely menstruation. In each case the apprehended dates of menstruation are derived from the patient's written record of previous catamenial dates."

Before the rhythm for any patient can be calculated, the record of at least three successive previous catamenial dates is required. Patients whose

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menstrual cycles vary in length 8 days or more are advised against the use of this method. Likewise women are advised to delay use of the rhythm after delivery and during lactation until they have had at least three successive menstrual cycles of similar length.

Patients are referred to the clinic by other hospitals, by welfare agencies, and by other patients. At the first visit a medical, social, marital, and obstetrical history is taken and a physical examination is made. The rhythm is carefully explained and each patient is given a calendar on which her presumptively fertile days are crossed off. The patient is asked to mark the days of subsequent menstruation and those of coitus. Every month, at the onset of menstruation, these calendars are reviewed at the clinic and the unsafe period for the ensuing cycle is marked as before. If the patient has

TABLE 1. All Patients: Findings at First Clinic Attendance and Disposition

Pregnant at interview	24*
Too soon after last delivery	25*
Menstrual cycles too irregular	17
Medical contraindication	14
Method rejected by patient	24
Never returned to clinic	60
Instructed and did use method	387
TOTAL	551

* 22 of these 49 patients later returned to the clinic and used the method.

been using the method incorrectly, it is again explained and her errors pointed out. It has been found expedient, for both the patient and the clinic, to have these calendars submitted by mail rather than at a personal interview. Patients who have correctly used "rhythm" long enough to be able to apply the method themselves are allowed to do so but are advised to have their calendars checked every six months.

The total number of patients attending the clinic from its establishment to the summer of 1949, when the records were abstracted, was only 551 in spite of the fact that large numbers of Free Hospital patients and of social workers in the Boston area know of the clinic. As shown in Table 1, 24 women in this group were found to be pregnant when they first presented themselves, while in 25 cases the time elapsed since the last delivery was too short to re-establish the regularity of the menstrual cycle. These two classes of patients were advised to return to the clinic at a later time and

almost half of them (22) did so. Seventeen patients were considered unsuitable for the rhythm method because their menstrual cycles were too irregular. In 14 instances such severe and permanent medical contraindications

TABLE 2. Distribution of Users by Age, Duration of Marriage, and Number of Previous Pregnancies

<i>Age of woman (years)</i>	
15-19	4
20-24	62
25-29	123
30-34	111
35-39	79
40-44	25
45-49	2
Not recorded	3
<i>Duration of marriage (years)</i>	
Premarital	8
0-4	125
5-9	124
10-14	67
15-19	40
20 and over	14
Not recorded*	31
<i>Previous pregnancies</i>	
None†	37
1	63
2	77
3	66
4	48
5	40
6	22
7	24
8	11
9	10
10 or more	11
TOTAL	409

* Including all women married more than once.

† All nulliparae either premarital or married less than one year.

to pregnancy were present as to require more dependable protection than the method offers. Of the remaining 471 women, 24 lacked confidence or expressed preference for other methods of contraception at the initial interview. To these must be added 60 women who accepted a calendar but never

returned to the clinic, thus in effect rejecting the rhythm method. Together these two categories of rejectors included 17.8 per cent of all women to whom the method was offered at their first clinic attendance.

The number of actual users, participating for one month or longer, was 409. This includes the 387 patients originally accepted and the 22 who were either pregnant or recently parturient when first seen, but joined the clinic later. The distribution of this group by age at admission, duration of marriage, and number of previous pregnancies is shown in Table 2. The average (mean) age was 31 years, the average duration of marriage 8 years, and the average number of previous pregnancies 3.4 per woman, corresponding to 0.4 pregnancies per year of married life. These figures suggest

TABLE 3. Number of Users and of Periods of Use and Aggregate Exposure to the Risk of Pregnancy by Length of Observation

<i>Length of observation</i>	<i>Number of users</i>	<i>Months of exposure</i>	<i>Percentage of total</i>	<i>Periods of use</i>	<i>Months of exposure</i>	<i>Percentage of total</i>
Less than 1 year	224	1,134	15.6	260	1,305	18.0
1-2 years	84	1,391	19.1	110	1,848	25.4
2-3 years	47	1,375	18.9	42	1,190	16.4
3-4 years	21	866	11.9	21	863	11.9
4-5 years	12	623	8.6	10	524	7.2
5 years or more	21	1,878	25.8	19	1,537	21.1
TOTAL	409	7,267	100.0	462	7,267	100.0

that our patients have had but little contraceptive experience before admission to the clinic.

The 409 users were observed at the clinic for an aggregate period of 7267 months or 605.6 woman-years. More than half of the group (224) participated for less than one year, but these patients contributed only 1134 months or 15.6 per cent of the aggregate exposure to the risk of pregnancy, as shown in Table 3. The remaining 84.4 per cent were furnished by the 185 patients observed for a full year or longer. In a number of instances the use of the rhythm was interrupted by one or more pregnancies, voluntary or accidental. The total number of periods of use, separated by pregnancies, was 462. If each of these periods of use is counted as a separate "case" the number of "cases" observed for a full year or longer was 202, contributing 82.0 per cent of the aggregate exposure.

When the records were abstracted, 62 of the 409 patients were still active cases (Table 4). Thirteen women had been discharged as users when it was thought that they were competent to make their own calculations. In 23 instances the menstrual cycles had become too irregular for further application of the rhythm method, 10 women had been sterilized, 5 had reached the menopause, and 9 were separated from their husbands by death or divorce. Sixteen women had discontinued contraception because they wanted a baby (or another baby), 40 had abandoned the method because of accidental pregnancy, and 22 had given other reasons, usually preference for another method of contraception. In 209 cases, or more than half of the

TABLE 4. Distribution of Users by Status at End of Clinical Observation

Active cases	62
Discharged as user	13
Discontinued because:	
Menstrual cycles too irregular	23
Sterilized	10
Menopause	5
Separated from husband	9
Wanted a baby	16
Accidental pregnancy	40
Other stated reason	22
No information	209
TOTAL	409

total number, the patients had simply failed to return to the clinic or to mail their calendars and had not responded to letters of inquiry.

The number of accidental pregnancies recorded during the period of observation was 57. As noted in the preceding paragraph, 40 of these patients did not attend the clinic thereafter, while 17 were known to have resumed the use of rhythm after delivery. It was necessary to consider the possibility that additional accidental pregnancies were concealed in the large group of 209 patients mentioned above who had discontinued participation without further contact with the clinic. To keep expenses at a minimum, it was decided to attempt a systematic follow-up of the 73 patients who had dropped out during the years 1946-49 and to apply the ratio of accidental pregnancies found among those successfully followed to the total number of non-returners (209). A trained social worker, Mrs. Albert Y.

Kevorkian, was able to locate and interview 69 of the 73 patients selected for follow-up and found among them 10 or 14.5 per cent who had been accidentally pregnant when they withdrew from the clinic. If this ratio is applied to the 209 non-returning patients, it can be estimated that the number of concealed pregnancies was 30 and the total number of accidental pregnancies, 87. At least a portion of these 87 pregnancies is believed to have resulted from the patient's failure to follow exactly the instructions given her by the clinic, either because she had not understood them or because the couple "took a chance." Although it cannot be demonstrated that conception actually occurred at these occasions, it is worth noting that coitus during the "unsafe" part of the cycle was admitted in a number of instances. A complete record of cohabitations is unfortunately not available.

The 87 accidental pregnancies, observed and estimated, during 605.6 woman-years of observation correspond to a rate of 14.4 ± 1.5 conceptions per 100 years of exposure to the risk of pregnancy or one unwanted conception to almost eight years of reliance on the rhythm method. This rate is significantly higher than the rate of 9.4 conceptions per 100 years of exposure that would have been obtained if the computation had been limited to the 57 pregnancies recorded at the clinic and if no effort had been made to locate those patients who had failed to return. The rate of 14.4 is much higher than the rates reported for the most successful users of the diaphragm-and-jelly or of condoms (6 to 7 per 100 years of exposure), but it is in line with the results of several other clinics in urban and rural areas of the United States, prescribing mechanical and/or chemical contraception and serving a type of patient presumably comparable to those in our clinic in understanding and foresight and in their interest in family limitation.¹ However, one should also note the fact that the computation of the "unsafe period" as done at the Rhythm Clinic includes a long 3-day extension on each end of the theoretical ovulation phase. Furthermore in most instances the actual determination of this period was made for the patient by a trained worker who also prescribed complete continence during the months when the patient's ovulatory rhythm was obviously upset.

The conclusion appears justified that the rhythm method offers a satisfactory degree of protection against unwanted pregnancy to rigorously selected and carefully instructed wives who, with their husbands, are intelligent and strongly motivated. For others and for those to whom preg-

nancy would be dangerous, the effectiveness of the method in preventing conception is not considered adequate.

REFERENCES

1. Dickinson, R. L.: *Techniques of Conception Control* (ed. 3). Baltimore, 1950, The Williams & Wilkins Co., p. 56.
2. Fleck, S., Snedeker, Elizabeth F., and Rock, J.: *New England J. Med.* **223**:1005, 1940.