Effectiveness of a Standard-Rule Method of Calendar Rhythm Among Mayan Couples in Guatemala

By Marianne C. Burkhart, Lidia de Mazariegos, Sandra Salazar and Virginia M. Lamprecht

Context: *Mayan couples in Guatemala have very low rates of contraceptive use but have long expressed an interest in natural family planning methods.*

Methods: *A simple calendar rhythm method of family planning was tested among 301 couples living in two departments in the Guatemalan highlands. The method requires couples to keep track of the woman's menstrual cycle, using a calendar and a necklace as a reminder, and to abstain from intercourse on days 9–19 of each cycle. Participants—most of whom were Mayan, had had fewer than seven years of schooling and had never used a contraceptive method—received instruction in how to use the method and were followed up for one year. Data were analyzed using life tables.*

Results: *Seventy-nine percent of couples successfully completed one year of use. Any difficulties they encountered with the method (i.e., with using the calendar or necklace, or abstaining from intercourse for 11 days each month) occurred early in the study, and after one year, couples were highly satisfied with the method. Eleven percent of couples conceived during the study, and one-third of this group said that they had not had relations during the woman's fertile period. Among the 31 couples who discontinued method use for reasons other than pregnancy, the principal reason was personal factors. The only demographic characteristic that was significantly associated with continuation and pregnancy rates was age.*

Conclusion: *A fairly simple natural method is potentially effective and highly acceptable among the Mayan population of Guatemala.*

International Family Planning Perspectives, 2000, 26(3):131–136

In the 1998–1999 Demographic and Health Survey in Guatemala, 8% of married Mayan women aged 15–49 reported current use of a modern method of family planning, and 5% reported current use of a traditional method, principally periodic abstinence (2%). However, 15% of all women surveyed, and only 40% of those using the calendar rhythm method, knew when in the menstrual cycle a woman's fertile period occurs.[1] Other studies have found even lower levels of knowledge among the Mayans.[2]

Fertility awareness–based methods, often called "natural" family planning, are methods a woman uses to identify the fertile time in her menstrual cycle, when she practices periodic abstinence. These methods are widely regarded as less effective than modern methods of family planning. They are considered "only somewhat effective as commonly used, yet effective when used correctly and consistently."[3] Their effectiveness is highly dependent on behavioral factors that may differ among cultures and individual couples. Yet natural methods have a number of advantages: They involve little or no cost, have no medical contraindications or side effects, and can be taught by paraprofessionals.

Several studies have found a strong preference for natural methods among the Mayan population of Guatemala.[4] This preference may have arisen because the Catholic Church has long been the Mayans' principal source of information on family planning, or because of widespread rumors about negative side effects of modern methods, the Mayans' agrarian roots or such cultural factors as a tradition of postpartum abstinence and a positive attitude toward abstinence.[5]

To date, no clinical trials have been conducted to determine the effectiveness of the rhythm method among the Mayan population. With contraceptive use extremely low among Mayans, programs that aim to serve this population could be strengthened by the addition of an effective natural method that is simple to teach and use.

Scientific Basis of the Method

Researchers from Georgetown University and the U.S. Centers for Disease Control and Prevention compared the traditional formula for determining the fertile time and three alternative formulas, using data on 7,514 menstrual cycles among 725 women who observed their mucus patterns daily and recorded the day of peak mucus (from which the day of ovulation is estimated) in each cycle.[6] Under the traditional formula, a woman would keep track of her cycle length for six cycles and would determine the abstinence period by subtracting 11 days from the longest cycle and 18 days from the shortest one. Likewise, under two of the alternative formulas, the abstinence period varied according to women's individual cycles. By contrast, the "standard rule" proposed that for all couples, the period of abstinence would begin on a specified day of the woman's cycle and would continue for a specified number of days.

The researchers developed a summary of the number of days of abstinence required, using the various rules. Two rules appeared to provide better protection than the traditional rule, and the researchers recommended that these be tested in clinical trials. The simpler of the two is the standard rule 9–19, which is the basis for the method tested in this study. It calls for abstinence to begin on the ninth day of the woman's menstrual cycle and continue through the 19th day, for a total of 11 days.

The Necklace

Couples participating in the test of this method were given a device to help them calculate the fertile time of the menstrual cycle: a necklace with 30 beads (one for each day in the cycle) of different colors and a marker that the couple moves daily to indicate the day in the cycle. The necklace is kept in a safe place in the home, hidden from children.

The colors for the beads used in the necklace were chosen to relate the woman's monthly fertile cycle to the annual fertile cycle of the earth. Previous re-

Marianne C. Burkhart is program associate, Population Council, Guatemala City; Lidia de Mazariegos is executive director, La Asociación Pro Salud Preventiva para la Mujer Vivamos Mejor (APROVIME), Guatemala City; Sandra Salazar is deputy director, APROVIME; and Virginia M. Lamprecht is epidemiologist, Research Triangle Institute, Rockville, MD, USA. This study was made possible by funding from the U.S. Agency for International Development (USAID) under cooperative agreement 520-0357-A-00-4169-00 with the Population Council and a subaward to APROVIME. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID. The authors thank James Trussell and Chiara Capoferro for their review and comments.

Table 1. Percentage distribution of men and women using a standard-rule natural family planning method, by selected characteristics, Guatemala, 1998 (N=301)

Characteristic	Men	Women
Ethnicity		
Mayan	95.0	95.7
Ladino	5.0	4.3
Primary language		
Spanish	45.5	43.9
Mam	34.6	36.9
Kakchiquel	19.6	19.3
Kíche	0.3	0.0
Religion		
Catholic	51.2	51.5
Evangelical	38.9	41.5
Mayan	3.3	2.7
None	6.6	4.3
Age		
18–19	2.0	3.7
20–24	12.6	25.9
25–29	32.2	29.6
30–34	23.3	21.6
35–39	21.3	19.3
≥40	8.6	0.0
Education (yrs.)		
0	22.9	34.6
1–3	21.6	21.9
4–6	31.9	27.6
≥7	23.6	15.9
Literate		
Yes	80.7	67.8
No	19.3	32.2
Desire more children		
Yes	33.9	35.2
No	64.1	63.1
Undecided	2.0	1.7
Total	100.0	100.0

search has demonstrated that rural populations with low or no literacy easily understand this link,[7] and focus-group discussions with Mayan men and women in the preparatory phase of the study confirmed this finding. In Guatemala, the year begins with the dry season; at that time, the countryside is brown and crops are not planted. In May, the rainy season begins, the countryside turns green and seeds bear fruit. At the end of the year, the dry season arrives again, the earth turns brown and again no crops are sown. Therefore, the first bead on the necklace is red, to indicate the first day of menses; beads 2–8 are brown, indicating infertility; beads 9–19 are green, to indicate fertility; and beads 20–30 are brown.

It is not clear where the use of a necklace for determining the fertile time of the menstrual cycle originated, but jewelry and amulets have long been associated with romance and sex.[8] A study conducted in the early 1990s demonstrated that a necklace somewhat similar to the one used in this study was effective in teaching a rural Guatemalan population with a low literacy rate about the fertile period, but the study did not proceed to field trials.[9] By contrast, in a study conducted in 1996–1997 among an urban Brazilian population, only 48 of 1,084 couples screened chose to use a necklace, and only 31 (64%) were still using it after six months.[10] However, an urban Brazilian population is culturally quite different from rural Mayans, despite their shared religious affiliations, and the relevance of these results for the Guatemalan Mayans is doubtful.

In addition to the necklace, study participants were given a calendar for marking the initiation of each menses. The calendar served as a research aid for verifying the end of a cycle in which a pregnancy did not occur and as a backup for couples who might have forgotten to move the marker on the necklace. By counting the number of days since initiation of last menses as marked on the calendar, a couple could position the marker on the corresponding bead.

Methods

Study Design and Sample Selection

The study was a noncomparative, multicenter prospective clinical trial conducted among couples from two departments of the Guatemalan highlands. It was carried out in five collaborating centers run by small, indigenous nongovernmental organizations (NGOs) that are dedicated to improving the health and well-being of their communities. The centers' staff and volunteers are Mayans who speak the local Mayan languages. At each center, a supervisor and three instructors in use of the method were trained in the protocol. La Asociación Pro Salud Preventiva para la Mujer Vivamos Mejor (APROVIME), a Guatemalan NGO based in the capital city, coordinated the study with technical assistance from the Population Council.

Assuming a confidence coefficient of .95, an expected 40% dropout rate, a 20% pregnancy rate, a five-point confidence interval and a one-tailed t-test, the study required enrollment of 288 couples in order to have 173 completing 12 months of follow-up. Participants were enrolled between mid-March and early July 1998.

Couples interested in learning to use the method and participating in the study were screened by the trained instructors. They were included if they met all eligibility criteria as individuals and as a couple, and if they gave their informed consent.

Women were eligible if they were aged 18–39, had regular menstrual cycles,* wanted to avoid a pregnancy in the next 12 months, were not currently using a contraceptive method and had not used any hormonal medication in the past three months. Natural family planning studies often exclude breastfeeding women because lactation may offer protection from pregnancy. However, because rural Mayan women commonly breastfeed until the next pregnancy,[11] we considered it important to include those who were lactating if there was evidence of a likely return to fertility; consequently, women who were breastfeeding but had had at least three regular menstrual cycles also were eligible.

For men, the only inclusion criteria were that they be interested in using the method and willing to participate in at least one instruction session.

Finally, for couples to be included, they had to be married or in union and had to have lived together for at least one year; both partners had to be willing to abstain from vaginal intercourse for 11 days during each cycle. Couples were ineligible if either partner had had a sterilization procedure. If a woman's cycle was found not to be between 26 and 32 days, the couple was informed that this method might not be the most effective for them; they could then choose whether to remain in the study. Potential participants had to be willing to meet with study staff for follow-up visits; provide basic demographic data; keep track of the first day of menses on a

Table 2. Percentage distribution of couples, by number of living children and ever-use of contraceptives

Measure	%
No. of living children	
1	15.0
2	21.9
3	22.9
4	15.6
5	7.6
6	7.0
7	6.0
8	3.0
9	1.0
Ever-use	
No method	88.7
Traditional/natural method	4.7
Modern method	6.6
Total	100.0

*No cycle history was taken prior to enrollment, but women were asked if they had regular cycles. Women were considered to have regular cycles if they reported a cycle length of 26–32 days or, since most women had never kept track of their cycle length, if they reported having a monthly bleed.

Table 3. Number of couples with various outcomes and life-table continuation rate, by interval

Interval (days)	No. of couples					Cumulative % continuing	SE
	Entered	Conceived	Discontinued	Lost to follow-up	Continued		
0–90	301	11	6	1	283	94.3	.0133
91–180	283	7	12	0	264	88.0	.0187
181–270	264	10	10	0	244	81.3	.0225
271–365	244	4	3	1	236	79.0	.0235

Note: SE=standard error.

calendar; inform the instructor if a pregnancy occurred; and use only periodic abstinence, but inform the instructor during follow-up visits if they used an additional method during the fertile time.

Data Collection and Analysis

Instruction took place during a woman's menses; if a woman was not bleeding at the time of enrollment, the couple was scheduled to receive instruction during her next menses. At the time of instruction, the couple were asked about their demographic characteristics, reproductive history and childbearing plans for the next 12 months, and the instructor recorded these data on an admission form. The instructor explained how to use the necklace and to keep track of the start of the woman's cycles on a calendar, and gave the couple a necklace and a calendar. Couples generally received this instruction, which lasted approximately two hours, in their home and, if they did not speak Spanish, in their Mayan language; the necklace and calendar were the only visual aids.

Instructors visited participants and completed a follow-up form once during menses after the first three cycles of method use and every two or three months thereafter, depending on the couple's mastery of the method. The last scheduled follow-up visit was at the end of the 12-month study period; if a woman's cycle was open-ended (i.e., she was not menstruating) at that time, the instructor made an additional visit to determine the outcome of that cycle. During follow-up visits, the instructor noted whether the couple were continuing or had discontinued the method and whether a pregnancy was suspected (i.e., 42 days or more had passed since the woman's last menses).

Instructors referred all women with a suspected pregnancy for confirmatory testing. If a woman resumed menses without a positive pregnancy test, her status was changed to continuing. Although couples stated before enrollment that they intended to avoid pregnancy for a year, the potential existed for them to change their minds. At each visit, they were asked if they intended to continue use; if they said that they did not because they wished to conceive, they were classified as discontinuing.

Data were input into a database in SPSS and analyzed using life-table techniques, the method now commonly used in effectiveness studies.[12]

Results

Participants' Characteristics

A total of 301 couples enrolled in the study. Nearly all of the participants were Mayan, and more than half reported that the primary language spoken in their home was one of three indigenous languages (Table 1). Roughly half were Catholic, and two-fifths were Evangelical, reflecting the rapid spread of Protestant religions in Guatemala. The largest five-year age-group for both men and women was 25–29.

In Guatemala, education and literacy rates are higher for men than for women, and this pattern was evident among the participants. Roughly two-thirds of the women had attended school, while about three-quarters of the men had some schooling. Similarly, two-thirds of the women were literate, compared with four-fifths of the men.

Almost two-thirds of both men and women wanted no more children. This finding is surprising, given that about the same proportion of couples had three or fewer children (Table 2) and the total fertility rate for Mayan women is 6.8 lifetime births per woman.[13] Although natural family planning methods are generally considered inappropriate for couples wishing to limit their families, the study participants chose a natural method after being informed about the availability and the comparative effectiveness of other methods. Few couples in the study had previously used a contraceptive, and only 7% had used a modern method. Inexperience with modern methods may be partly responsible for the choice of a natural method; alternatively, natural methods may be considered more compatible with Mayan culture, which attaches great importance to land and nature.[14]

Two-thirds of the women were breastfeeding when they enrolled in the study, and a quarter had given birth within the past 10.5 months, the national median for postpartum amenorrhea.[15]

Continuation and Discontinuation

The one-year life-table method continuation rate was 79% (Table 3). A total of 32 couples stopped using the method because the woman became pregnant, an additional 31 discontinued for other reasons and two were lost to follow-up.

Among couples who discontinued method use for reasons other than the occurrence of a pregnancy, the largest proportion—45%—cited personal factors (Table 4). Eight of the 14 couples who discontinued for personal reasons wanted to switch to a modern method, as did the two who discontinued after their doctors advised them that a pregnancy could endanger the woman's health. According to the instructors, some couples decided to use a more effective method when they realized that the woman's cycles were not as regular as they had believed prior to entry in the study.

Neither the woman's educational level, her literacy status nor her breastfeeding status was statistically associated with continuation (Table 5, page 134). However, the proportion of couples who completed a full year of successful use rose steadily from 46% to 90% as the woman's age increased from younger than 20 to 35–39, and this correlation was highly significant. The pattern for discontinuation was equally consistent, but in the opposite direction. Interestingly, the pattern was less consistent and the differences were not statistically significant when completion rates were analyzed according to the woman's number of living children, although women with five or more

Table 4. Percentage distribution of couples who discontinued method use, by reason for discontinuation (N=31)

Reason	%
Personal	45.2
Migration	22.6
Desire a pregnancy	16.1
Separation/death of spouse	9.7
Medical condition	6.5
Total	100.0

Note: Excludes those who discontinued use because they conceived.

Table 5. Percentage distribution of couples, by outcome of method use, according to selected characteristics of women

Characteristic	Discontinued	Conceived	Continued	Total
Education (yrs.)				
0	9.6	8.7	81.7	100.0
1–3	13.6	18.2	68.2	100.0
4–6	9.6	8.4	81.9	100.0
≥7	8.7	8.7	82.6	100.0
Literate				
Yes	10.4	12.4	77.2	100.0
No	10.3	7.2	82.5	100.0
Age*				
<20	18.2	36.4	45.5	100.0
20–24	14.3	15.6	70.1	100.0
25–29	13.5	7.9	78.7	100.0
30–34	6.3	7.8	85.9	100.0
35–39	3.4	6.9	89.7	100.0
Breastfeeding				
Yes	10.4	11.5	78.1	100.0
No	10.3	9.3	80.4	100.0

*Differences within the category are statistically significant at p=.000, using analysis of variance. *Note:* Excludes two couples who were lost to follow-up.

children had fewer pregnancies and discontinuations than those with 1–4 children (not shown).

Pregnancies

Of the 32 women who became pregnant during the study, 34% were sure that they had not had relations during the fertile period, while the rest were not sure. A total of 78% of pregnancies were confirmed by testing. The probability of pregnancy over 12 months of typical method use was 11% (Table 6). Pregnancy rates were not statistically associated with any demographic characteristic except age. Like the discontinuation rate, the pregnancy rate decreased with rising age (Table 5).

A woman's cycles may be less regular when she is breastfeeding than when she is not. However, breastfeeding may have some protective effect against pregnancy even after the resumption of menses. Nevertheless, the one-year pregnancy rate did not differ significantly between women who were breastfeeding at the start of the study and those who were not (Table 5).

There were large differences in the numbers of pregnancies among women in the various collaborating centers. Although each center had essentially the same number of participating couples, the number of pregnancies per center ranged from three to 10. The center with the largest number of pregnancies experienced management problems during the study, which may have contributed to difficulties among the instructors. Instructors' experience, however, was not a factor: Roughly equal numbers of pregnancies occurred among the first half of the couples trained by each instructor as among the second half.

Table 6. Cumulative pregnancy rate among couples using a standard-rule natural family planning method, by months of use

Months	No. of couples*	Cumulative pregnancy rate (%)	SE
3	297.5	3.7 (1.6–5.8)	1.1
6	277.0	6.1 (3.4–8.9)	1.4
9	259.0	9.8 (6.3–13.2)	1.8
12	242.0	11.2 (7.6–14.9)	1.9

*Number exposed to the risk of pregnancy, taking into account couples who discontinued or were lost to follow-up and not exposed to the risk of pregnancy for the entire three-month interval. For these cases, we assign an exposure time equal to one-half the length of the interval. *Notes:* Figures in parentheses are 95% confidence intervals. SE=standard error.

Satisfaction

At one, three and 12 months, 100% of the women reported being satisfied with the method and with the time of abstinence. However, five of the men reported being dissatisfied with the time of abstinence after three months; two of these men completed the study, but the other three discontinued because their partners became pregnant.

In the final follow-up visit, couples or (because 48% of men were not present for this visit) women were asked whether they had had any difficulty with the three key components of the method: moving the marker, abstaining from intercourse for 11 days and marking the calendar. Half reported that at the beginning, they had had trouble remembering to mark the calendar on the first day of menses or refraining from intercourse for 11 days (51% for each); 67% said that at first, they had had problems remembering to move the marker on the necklace. Only 2% had had difficulty remembering to move the marker other than at the beginning of the study. Some 47–48% had had no difficulty with abstaining or with marking the calendar, and 31% had had none with moving the necklace marker. It should be borne in mind that only couples who successfully completed a year of using the method were asked about difficulty.

All of the couples who completed a year of use said that they would recommend the method to others. Furthermore, they all reported that they would continue using the method, although three stated that they currently desired a pregnancy.

Correct Use

Although remembering to move the marker presented difficulties for the greatest number of couples, instructors noted only a few misplaced markers during follow-up visits. After comparing the day in the cycle with the bead marked, and allowing for the possibility that the couple had not yet moved the marker on the day of the visit, instructors found that 95% of couples had the marker on the correct bead after one month, and 96% at the fifth follow-up visit (i.e., after approximately seven months). The results were similar for marking the calendar on the first day of menses. At one month and seven months, 98–99% of couples had the first day marked correctly on the calendar.

Moving the marker daily and marking the calendar on the first day of menses were responsibilities that fell principally but not uniquely to the woman. Among 73% of couples who successfully completed a year in the study, the woman moved the marker; in 18%, the couple moved it together, and in about 10%, the man did it. One couple reported that they required the instructor to move the marker on the necklace. Men played a greater role, however, in marking the calendar: Twenty percent of couples reported that the man did this, 12% the couple together and 56% the woman alone; the remaining 12% required the assistance of the instructor to record the first day of menses on the calendar.

Discussion

This study was open to women 18–39 years of age. We excluded older women because they may experience disturbances in the menstrual cycle related to the onset of menopause. Some studies admit women only through age 35, since after this age, natural fertility declines. One-fifth of women in our study were 35–39 years old, and this age-group had the lowest pregnancy and discontinuation rates. Because the success and continuation rates display a steady pattern according to age, we conclude that older women, at least through age 39, are probably good candidates for the method. However, the youngest couples had the poorest success rates and probably are not suitable candidates for this method. The only characteristic that was significantly associated with pregnancy was younger age.

Breastfeeding has a protective effect against pregnancy, although it is difficult to quantify unless the woman is fully breastfeeding, amenorrheic and less than six months postpartum. Two-thirds of women admitted to this study were breastfeeding (but had had at least three regular menstrual cycles) at enrollment; a similar proportion were not breastfeeding at the end of the study. In the highlands of Guatemala, a large proportion of all Mayan women who are in need of protection against a pregnancy are lactating at any point in time. Because rural Mayan women were the population of interest in this study, we wanted to capture the experience of a population that closely resembled the women who were likely to use the method, rather than limit the study to the small part of that population who were ideal candidates for the method.

The requirement of regular cycles is particularly challenging for rural Mayan populations. While all women admitted to the study reported having regular cycles, they had not kept a record of cycle length prior to enrollment, and when participants began to chart their cycles on a calendar, many discovered that their cycles were not regular.[16] Although we did not eliminate any women from the study if their cycle varied from the 26–32-day limit for admission, these women and their partners were counseled about other methods.

Couples who require the assistance of the instructor to move the marker or mark the calendar may face difficulties in achieving autonomy in their use of the method. On the other hand, if the instructor lives near the couple, she may continue to provide this service; alternatively, the couple may seek assistance from a relative or friend. Autonomy of practice will be studied in a one-year follow-up study.

As is common in natural family planning studies, couples reported high degrees of satisfaction with the method. Partners of men who reported dissatisfaction with the length of the abstinence period had an excess number of pregnancies, but the numbers are too small to be definitive. Nonetheless, male dissatisfaction may serve as a red flag for the instructor to encourage the couple to keep a barrier method handy.

Study participants received more visits from the instructor than is feasible in many large-scale programs. Visits after the third cycle of use were for data collection purposes and are unnecessary outside a research context. Instructors reported informally that the visits in the first three cycles were important for providing reassurance to the woman. This level of attention should be feasible for NGOs that provide health services to this population or others that are equally underserved and prefer a natural method. The level of attention couples received from instructors may have contributed to the low rates of pregnancy and discontinuation observed in the study. A one-year follow-up study will research this issue.

Although studies of natural methods are usually conducted among better-educated couples, the effectiveness and continuation rates among this population are quite high. Our findings demonstrate the potential for effective use of a fairly simple natural method and its high levels of acceptability among the Mayan population of Guatemala.

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Resumen

Contexto: *Las parejas mayas en Guatemala presentan tasas muy bajas de uso de anticonceptivos, aunque desde hace mucho tiempo indican que tienen interés en usar métodos naturales de planificación familiar.*

Métodos: *Se probó un método de planificación familiar simple mediante el uso del calendario y el ritmo, entre 301 parejas residentes en dos departamentos ubicados en la zona montañosa de Guatemala. Este método requiere que las parejas hagan un control del ciclo menstrual de la mujer, mediante el uso de un calendario y un collar de 30 cuentas coloradas que sirven como recordatorio de los días, y que se abstuvieran de mantener relaciones sexuales entre los días 9–19 de cada ciclo. Los participantes—quienes en su mayoría eran mayas, tenían bajos niveles de educación y alfabetización y nunca habían usado un método anticonceptivo—recibieron instrucciones precisas de cómo usar el método y eran sujetas de un seguimiento durante un año. Los datos obtenidos fueron analizados mediante el uso de tablas de vida.*

Resultados: *El 79% de las parejas completó con éxito un año de uso. Las dificultades que pudieron haber encontrado con el método (por ejemplo, con el uso del calendario o del collar, o con abstenerse de mantener relaciones sexuales durante un período de 11 días cada mes) ocurrieron durante la primera etapa del estudio, y después de un año, las parejas estaban muy satisfechas con el método. El 11% de las parejas concibieron durante el período de estudio y la tercera parte de este grupo indicó que no habían mantenido relaciones sexuales durante el período fecundo de la mujer. Entre las 31 parejas que no continuaron utilizando el método por otras razones que no fueran el embarazo, la principal razón esgrimida fueron cuestiones personales. La edad fue la única característica demográfica que estuvo significativamente relacionada con las tasas de continuación de uso del método y con las tasas de embarazo.*

Conclusiones: *Un método anticonceptivo relativamente simple puede resultar eficaz y muy aceptable entre la población maya de Guatemala.*

Résumé

Contexte: *Les couples mayas du Guatemala présentent de très faibles taux de pratique contraceptive mais expriment depuis longtemps un intérêt pour les méthodes naturelles.*

Méthodes: *Une simple méthode de planning familial, basée sur la continence périodique, a été testée parmi 301 couples vivant dans deux départements des montagnes du Guatemala. La méthode invitait les couples à suivre le cycle menstruel de la femme, avec l'aide d'un calendrier et d'un collier, et à s'abstenir de tous rapports sexuels durant les jours 9 à 19 de chaque cycle. Les participants—dont la plupart étaient mayas, présentaient de faibles niveaux de scolarisation et d'alphabétisme et n'avaient jamais pratiqué de méthode contraceptive—ont été instruits sur la manière de pratiquer la méthode, puis suivis pendant une année. Les données ont été analysées sur la base des tables de mortalité.*

Résultats: *Soixante-dix-neuf pour cent des couples ont achevé l'année de pratique avec succès. Les difficultés éventuelles de la méthode (utilisation du calendrier ou du collier, ou continence sexuelle pendant 11 jours de chaque mois) sont apparues vers le début de l'étude et, au terme d'un an, les couples étaient fort satisfaits de la méthode. Onze pour cent ont conçu pendant l'année de l'étude. Un tiers d'entre eux ont déclaré n'avoir eu aucun rapport durant la période féconde de la femme. Des 31 couples ayant abandonné la méthode pour des raisons autres que la grossesse, le motif tenait à des facteurs personnels. L'âge s'est avéré la seule caractéristique démographique significativement associée aux taux de continuation et de grossesse.*

Conclusions: *Une méthode naturelle relativement simple semble potentiellement efficace et largement acceptable parmi la population maya du Guatemala.*