Introduction of the Standard Days Method in CARE-India's Community-Based Reproductive Health Programs

Authors:
Dr. Loveleen Johri
Dr. D.S. Panwar
Rebecka Lundgren, IRH

Submitted by:
The Institute for Reproductive Health
Georgetown University

October 2005

Support for the United States Agency for International Development (USAID) enables the Institute to assist a variety of international institutions, both public and private, to introduce and expand SDM services.

The Insitute offers technical assistance and support to organizations and programs interested in providing the method. For more information, please contact us at irhinfo@georgetown.edu or visit our website, www.irh.org.

Supported by the United States Agency for International Development under
Cooperative Agreement HRN-A-00-97-00011-00

ACKNOWLEDGEMENTS

We would like to acknowledge the District Administration of Sitapur in the conduct of this operations research study. We would also like to express our appreciation of the efforts of Officials from the Department of Health and Family Welfare. The operational support provided by Officials of ICDS in the district of Sitapur is also acknowledged.

Finally, we would like to thank the CARE field staff and community volunteers who were willing to test integration of a new family planning method into their services, thus contributing to an expansion of birth spacing methods for Indian couples. We would also like to thank the men and women of Sitapur who graciously shared their experiences and opinions with us.

TABLE OF CONTENTS

Introduction of the Standard Days Method into CARE-India's Community Based Reproductive Health Programs

Executive Summary

The feasibility and effects of incorporating the Standard Days Method®, a simple fertility awareness-based family planning method, as an additional choice into the basket of contraceptives offered in rural villages in the Sitapur district of Uttar Pradesh was tested by CARE India in collaboration with the Institute for Reproductive Health at Georgetown University. CARE tested involving men in the use of this method, as a means of overcoming male resistance to participating in family planning use.

Background

The Standard Days Method is an effective and easy-to-use natural family planning method developed by researchers at Georgetown University's Institute for Reproductive Health to enable women to manage their own fertility. It identifies a fixed fertile window in the menstrual cycle and helps users to be aware of the days pregnancy can occur. Users of this natural family planning method can rely on CycleBeads®, a color-coded set of beads, to help identify fertile and non-fertile days and monitor cycle length.

Uttar Pradesh is one of the four most populated states in India. Prevalence of modern method use is far below the national average, and levels of unmet need for family planning, especially birth spacing methods, are very high. Many women who want to space their next birth are using no method of family planning, and birth spacing methods are not widely promoted or used. A higher percentage of women in India use traditional methods such as the "safe period" than any other single birth spacing method, yet very few of these women can correctly identify their fertile period. Men, a critical half of the family planning equation, are rarely involved in family planning. Lack of safe, effective and accessible birth-spacing methods is a barrier to contraceptive choice in India. The Standard Days Method can help address this need.

Study Design and Objectives

In India, the Standard Days Method was incorporated into a USAID-funded community-based reproductive health project implemented by CARE in Uttar Pradesh. CARE community organizers selected and trained community volunteers in every village. Community volunteers conducted RH education with the assistance of auxiliary nurse midwives and provided condoms and oral contraceptives free of charge. Male volunteers also provided orientation on family planning and STIs to men's groups.

The feasibility and effect of including men in counseling and targeting men for Standard Days Method promotion were tested. The study was implemented over a two and a half year period in 48 rural villages in the Sitapur district of Uttar Pradesh. In half of the study communities, male and female volunteers were trained to provide information on the method. In the traditional (woman focused) model, information on the method was provided only by female health volunteers. In the alternative (male-involvement) model, male volunteers also were trained to provide information on the method. In both models, volunteers offered counseling to either women or men only or as a couple. When possible, counseling was provided to the couple together. However, due to social constraints, counseling was sometimes provided separately to the man and woman.

CARE contracted with a consulting firm, TNS Mode, to conduct baseline and end line surveys to determine the effect of introducing the Standard Days Method at the community level. In addition, field-investigators conducted interviews with users to determine satisfaction, correct use and continuation. Users were interviewed upon admission to the study and followed quarterly for up to twelve cycles, when an exit interview was conducted. An exit interview was conducted in those instances where the woman stopped using the method or became pregnant. Men also were interviewed when they exited from the study. A qualitative assessment to explore the feasibility, effectiveness and acceptability of involving men in providing the Standard Days Method was conducted.

Intervention

Standard Days Method counseling and awareness-raising activities were conducted by 56 female and 28 male community volunteers. They offered the method free of charge to couples who were either using periodic abstinence, withdrawal, only sporadically using condoms, or not using any method at all. Initial screening and counseling took place in the women's home and lasted about 30 minutes. A follow-up counseling visit was made to each user after one cycle of method use. Subsequently, users were visited on a quarterly basis.

According to CARE's statistics, 3,031 women and men expressed interest in learning about the method. Of these, 34% were eligible for the method and 482 eventually accepted the method and entered into the study, 54% from the experimental block and 46% from the women-focused block.

Results

User Experiences

The study results show that offering the Standard Days Method can improve family planning use. Most new users of the method never previously used family planning or had used condoms inconsistently prior to adopting the method. The

majority of the new Standard Days Method users (59%) were first time family planning users; most had relied on condoms; virtually none had been using the IUD or a hormonal method. Less than three percent of women had been doing something to prevent pregnancy in the two months prior to adopting the SDM; 10 couples were using condoms and one withdrawal.

Most of the users heard about the method for the first time from the female volunteer (92%). Couples chose the method because it was affordable, there was no need to take or use anything; and it has no affect on a women's health. In Mishrikh, the male involvement block where male volunteers were trained, 40% of men received counseling from the female volunteer and 40% from the male volunteer. In Khairabad, the majority (88%) learned about the method from their wife.

Almost all of the couples using the method (98%) found it simple to learn and use; likewise, the majority had accurate knowledge of how to use the method and used it correctly. At the first interview, almost all women had the ring on the correct bead and reported that they had avoided unprotected sex on the fertile days of their previous cycle. Over time, couples became adept at managing the fertile days. As one woman explained, "*On the white bead days I simply say no. Now, I am no longer afraid to say no to him."* Virtually all women reported that they moved the ring daily. Despite initial concerns about the feasibility of the calendar among this rural population, 99% of women and 88% of men reported that they found it useful to mark the first day of menstruation on the calendar. However, some women relied on their husbands or family members to mark the calendar for them. Most couples practiced abstinence during the fertile days, although 32% used the condom as an alternate method.

Women who reported using the Standard Days Method correctly experienced few pregnancies (3.5%). Over a period of twelve months, 14% of women discontinued use of the method for personal reasons and 18% discontinued because they had cycles outside the 26-32 day range recommended for the method.

Users were highly satisfied with the method; 90% of women and 70% of men would recommend the method to others and almost all (99%) women who completed 12 cycles of method use planned to continue using the method.

Interviewers asked men and women if using the Standard Days Method had influenced their relationship. The majority responded by saying that they felt more certain of the fertile days. This is a salient point for respondents because most of the new users previously had been abstaining or using condoms on the days they identified as fertile; however none had correct information or specific strategies for identifying those days. Both men and women reported that using the Standard Days Method had increased communication and affection in their relationship; although men were more likely to mention this than women. Twice

as many men as women reported increased communication with their partner (27% vs. 13%, respectively). As one woman stated, "*I feel good that my husband now understands how my body works. He pays attention to my suggestions and respects my wishes. For the first time he asks me if we can have intercourse. I am happy that he cares about me."* However, ten percent of men did mention discomfort or anger dealing with the fertile days.

Community Effects

Increasing fertility awareness in the community was a key objective. In the rural villages, the primary source of information on the method was the community volunteer (78%); followed by the CARE field worker (39%). Anganwadi workers (24%) and auxiliary nurse midwives (12%). Results from the household surveys show that knowledge of the Standard Days Method and fertility awareness increased substantially in study communities. About one year after introducing the Standard Days Method, 64% of women and 38% of men had heard of the method. Correct knowledge of the fertile days increased from nothing to 91% among women in Sitapur; nearly 75% of men could correctly identify the fertile period by the end of the project. Community censuses conducted before and after introducing the method show an increase in contraceptive prevalence from 24% to 41%, with 7% of women using the Standard Days Method.

Service Delivery Lessons

The results of the qualitative assessment highlight key service delivery issues. Some couples decided to begin using the Standard Days Method as soon as it was introduced, while others adopted the method only after they saw that others were using it successfully. When asked about the challenges they faced introducing the method into their communities, a few volunteers mentioned that some couples doubted its effectiveness because it appeared either too simple to them, "*How can you prevent pregnancy without eating or using anything*?" or too confusing, "*Moving the ring each day is a difficult proposition, have too much on our mind to remember this detail*." Other challenges they reported were that use of the method requires care during the fertile days. They also stated that a few illiterate men and women had difficulty understanding the calendar and they had to explain it to them several times. Finally, the volunteers remarked that asking women with out of range cycles to discontinue method use caused disappointment in the community.

The results of the qualitative assessment suggest that the presence of both male and female providers facilitated men's involvement in method use by bridging information gaps between women and men and minimizing male opposition to family planning. Most users and volunteers agreed that providers of both sexes are needed, given that women can only discuss matters related to sex without embarrassment with other women, and men strongly prefer to discuss these issues with other men.

A comparison of the results by block suggested that the men from the experimental block (Mishrikh) had a better understanding of the method, perhaps because it had been explained to them directly by male volunteers. Cooperation between husbands and wives was also more evident in the male involvement communities.

The comments of both users and volunteers suggest that the fact that the Standard Days Method is based on an improved understanding of the menstrual cycle increases couples' sense of control. Users felt confidence in the method because they now understand their fertile period. They commented that use of the method led to improvements in their relationship with their partner, in part due to greater consensus about when to have sex and the freedom to have unprotected sex on non-fertile days.

Conclusions and Recommendations

Introduction of the Standard Days Method is a promising strategy for addressing unmet need. The study found that there is demand for the method among couples who have never before used family planning and that it can be provided effectively by low-literacy community health workers in rural settings. Most couples can identify and manage their fertile days correctly; and users were very satisfied with the method.

Well-trained providers are key to successful integration of the method; thus, capacity building should be emphasized. Behavior change communication efforts should be increased to create awareness and legitimization for this new method. A consistent supply of high quality CycleBeads and condoms combined with good condom instruction will facilitate acceptance and correct use of the Standard Days Method. The role of men as educators, providers and users of the method should be encouraged. The Standard Days Method will be more acceptable if integrated into the existing government family welfare program, and other stakeholders should be included in the dissemination process. Some users suggested that the method be made available at Anganwadi centers, where individuals could more easily obtain it.

ABBREVIATIONS AND ACRONYMS

ANM	Auxiliary Nurse Midwives
AWW	Anganwadi Workers
CHG	Community Health Guides
DHS	Demographic and Health Study
DMPA	Depot Medroxy Progesterone Acetate, Depo Provera
FA	Fertility Awareness
ICPD	International Conference on Population and Development
IUD	Inter Uterine Device
LAM	Lactation Amenorrhea Method
OCP	Oral Contraceptive Pill
OR	Operations Research
Rs	Rupees (Indian currency)
RTI	Reproductive Tract Infection
SDM	Standard Days Method
STI/STD	Sexually Transmitted Infection/Sexually Transmitted Disease
WHO	World Health Organization

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Study Instruments

Provider Tools

I. INTRODUCTION

According to the Indian National Fertility and Health Survey (NFHS II, 1998-1999), Indian women marry early, have their first child soon after marriage, have a second and possibly third child in close succession, and are then sterilized all before reaching their mid-twenties. Seventy percent of women in India who want to space their next birth and one quarter of women who would like to either space or limit their next birth are not currently using a method of family planning. In addition, 5% of women use traditional methods, such as the rhythm or the "safe period", although few can correctly identify their fertile period during the month.

Research shows that when users can choose among several, different contraceptive methods, they are more likely to find – and use – a method that appeals to them. Adding a new method of family planning throughout a country will increase the contraceptive prevalence rate by 12 points on average (Laing, 1985). The Standard Days Method ® (SDM), a new, simple fertility-awareness based method, provides a safe, accessible and effective option that can help address the unmet need of couples wishing to space their pregnancies, particularly those who have yet to reach their desired family size. Introducing the SDM into programs helps contribute to increased fertility awareness, which increases the basic knowledge of male and female reproductive systems. This equips couples with knowledge that will help them to choose a family planning method that meets their needs.

CARE India, in collaboration with the Institute for Reproductive Health, conducted operations research to study the effects of introducing fertility awareness instruction and the Standard Days Method (SDM) into a community-based reproductive health program. Strategies tested included involving men in the use of this couple method, as a means of overcoming male resistance to participating in family planning use. Incorporating the SDM increases the number of effective family planning options for Indian couples, a country where a high demand for spacing methods exists, and relatively high use of periodic abstinence is practiced.

II. BACKGROUND

Situated in South Asia, India is the second most populated country in the world. In March 2000, India joined China as the world's second demographic billionaire. It accounts for 16% of the world population and 40% of the world's absolute poor (World Bank, 1990). Poverty, high population growth, gender inequality, low literacy, and environmental degradation are among India's major problems. The health care system is not efficient and resources are unevenly spread amongst the population. Accessibility and quality of care are also poor.

Uttar Pradesh is one of the four most populated states in India, with an estimated population of over 166 million (2001 Census)**.** The state has a low level of female literacy (26%) and women have a shorter life expectancy than men. The total fertility rate (3.99), infant mortality rate (86.7 per 1,000 live births) and prevalence of modern method use (22%) in Uttar Pradesh is far below the national average (NFHS-II, 1998-99). Unmet need for all family planning methods is estimated at 25%**,** while the unmet need for temporary methods is estimated at 11.8% (NFHS-11, 1998-1999).

Contraceptive prevalence in Uttar Pradesh is lower in the rural areas (24%), than in urban areas (45%). Female sterilization is the most prevalent method used by women in both areas (18% in urban areas and 14% in rural areas). In both areas, the percentage of women using traditional or natural methods (most often periodic abstinence) surpasses the combined percentage of women using the IUD, condom and pill. In rural areas, 3.7% of women use modern spacing methods, while 5.3% of women report use of periodic abstinence or withdrawal. Similarly, the percentage of urban women using periodic abstinence and withdrawal (7.2%) is almost double that of women using other birth spacing methods (3.7%). Nevertheless, knowledge of the women's fertile period is generally poor.[1] Statistics suggest a need for providing men and women with basic information in order to determine a women's fertile period.

In the past, the Indian national family planning program has not been supportive of the use of natural methods.[2] Since the government program does not promote or offer natural methods, it is difficult for men and women to obtain accurate information and few couples know how to use them correctly.

A. CARE India

This study took place in 48 rural villages in the Sitapur district of Uttar Pradesh where CARE India was implementing reproductive health activities with funding from USAID. These projects addressed the problem of high reproductive health morbidity and mortality through health education, formation of women's associations, strengthening of the existing health infrastructure, and training of grass roots health workers. CARE worked through the Integrated Child Development Services program of the Indian Government to generate demand for reproductive health and birth spacing services in the districts of Sitapur and Shahjahanpur. This project aimed to raise awareness regarding birth spacing methods, safe motherhood, reproductive tract infections and sexually transmitted disease. The programs also upgraded the skills of medical, paramedical, and village-level workers to make sustainable services available at the community level. The principal project activities consisted of:

[1] AC Nielson Research Services and International Institute for Population Sciences. 1999. National Family Health Survey, 1998-99 (NFHS-2): Preliminary Report.
[2] Piet-Pelon, Nancy, Rob, Ubaidur and M.E. Kan. 1999. Men in Bangladesh, India and Pakistan: Reproductive Health Issues.

1) training village-level volunteers and members of the *Mahila Swasthya Sangh* (community women's groups) to conduct community education on reproductive health and birth spacing activities;
2) training male volunteers to provide education on family planning and STI prevention for men;
3) establishing a referral system to health services;
4) creating a community based system for emergency obstetric care; and
5) Establishing community-based contraceptive depots for stocking and distributing contraceptives.

Contraceptive prevalence in Sitapur (22%) does not differ significantly from that of Uttar Pradesh, but levels of total unmet need (57%) and for spacing methods (33.5%) are very high (NFHS-2). Permanent methods (female sterilization) account for more than half of modern family planning methods used. During focus group discussions, which were conducted by CARE with women in the Sitapur and Shahjahanpur districts, participants mentioned abstinence as one of the most widely practiced birth spacing methods within in their communities.

A method such as the SDM that teaches couples to correctly identify the fertile days of a woman's cycle could be beneficial to a number of groups, including couples who use no family planning method or use an ineffective method, such as periodic abstinence or withdrawal; others who could benefit have inadequate access to commodity-based methods, or use a barrier method inconsistently.

B. THE STANDARD DAYS METHOD

The Standard Days Method (SDM), developed by the Institute for Reproductive Health at Georgetown University, could fulfill an unmet need for family planning of many couples. An efficacy study of the SDM, which followed 478 women for up to 13 cycles of method use in five sites in Bolivia, Peru and the Philippines, resulted in a 4.8 one-year pregnancy rate with self-reported correct use of the method (Arevalo, 2001). Based on these results, and other research conducted by the Institute, the SDM is now included in international guidance documents such as Contraceptive Technology and Medical Guidelines and Practice Recommendations published by the World Health Organization[3].

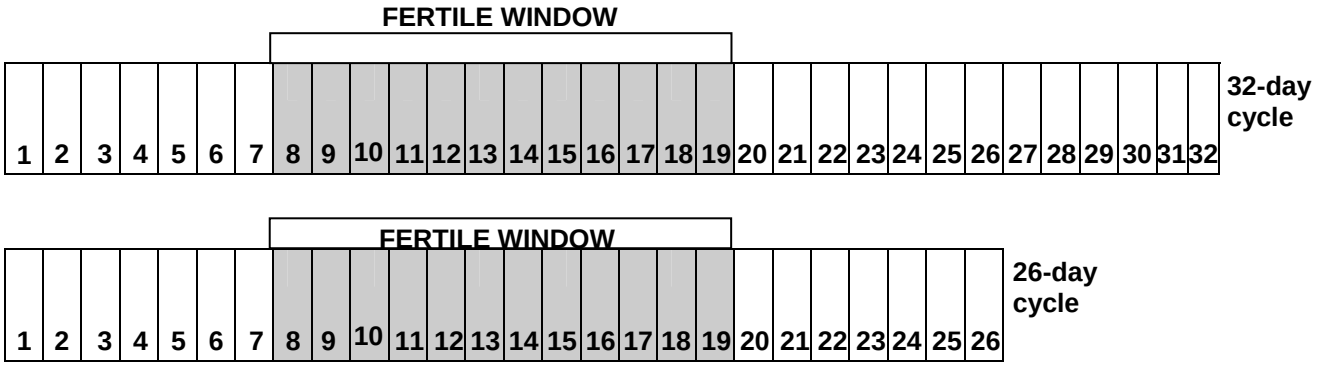
The SDM is a simple, natural method of family planning. It is based on the fact that there is a "fertile window" during a woman's menstrual cycle – a window of days during which she can, with varying degrees of likelihood, become pregnant from unprotected intercourse. For women whose cycles are between 26 and 32 days long, this window is from day 8 through day 19 (inclusive) of their cycles. Its use and effectiveness relies on abstaining from unprotected intercourse

[3] World Health Organization. *Selected Practice Recommendations for Contraceptive Use.* WHO/RHR/FCH/ Geneva: WHO, Second Ed., 2004.

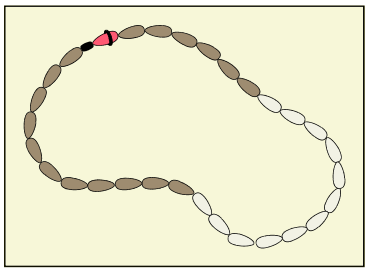
during the fertile days of the woman's menstrual cycle. It requires cooperation of both members of the couple, and it is most appropriate for women with cycles between 26 and 32 days.

As Figure 1 shows, this identified window is consistent regardless of cycle length when the cycle is within the 26-32 day range.[4] The probability of this window covering all fertile days is highest for cycles within this range; however it also provides significant coverage for cycles that are somewhat longer or somewhat shorter.[5]

Figure 1: The Fertile Window



If a couple does not want a pregnancy, the woman and her partner avoid unprotected intercourse on days 8 through 19 of every cycle.



CycleBeads

There are a variety of ways to "keep track" of the current day of the woman's menstrual cycle. Some women may be able to remember when they began their most recent menstrual bleeding and count accordingly. Others may prefer to use a calendar – simply checking off each day beginning with the first day of the woman's menstrual bleeding. Studies conducted by IRH in six countries, indicate that many women find a string of beads, with each bead representing a day of the cycle (called CycleBeads) to be a helpful tracking and communication tool. CycleBeads® consist of 32 colored beads and a rubber ring. The bead representing the first day of menstruation is red, followed by 6 brown beads (indicating that the first 7 days of the cycle are not fertile). These are followed by 12 white beads, which represent the fertile window. The rest of the beads are brown, again indicating infertile days. The woman moves a small rubber ring one bead per day so she can tell when she is in her fertile window.

[4] Arevalo M, Sinai I, Jennings V, Op. cit.
[5] Ibid.

C. Involving Men in Counseling

The need to provide men with reproductive health information and services was affirmed at both the ICPD and the Fourth World Conference on Women held in Beijing in 1995.[6,7] International studies from a variety of regions have shown that family planning and reproductive health programs are likely to be more effective for women when men are also involved.[8] The reality, however, has been that except for vasectomy or condom distribution programs, and more recently STI diagnosis and treatment programs, the tendency has been to exclude men from family planning and reproductive health services.[9]

There are many reasons for this tendency to overlook services for men. The emphasis on demographic impact encouraged by family planning programs pursues the most efficacious means of reducing population growth. Women tend to be more compliant clients, and because they bear children, policy makers feel that they are more likely to be committed to contraceptive use.[10] Women are also easier to reach than men since they are often available during the daytime hours when clinics are open, and when providers are available.

Men however are eager to learn more about contraception and family planning.[11] In Zambia, more than 90% of the men surveyed expressed an interest, although only 50% of the women surveyed thought that men would be interested.[12] Furthermore, DHS data from seven African countries show that the percentage of women using contraceptives is consistently higher among women who have discussed family planning with their husbands than among those who have not.[13] Numerous studies have also shown that use and continuation rates are higher when counseling is provided to both men and women.[14,15] In Ethiopia,

---

[6] United Nations. 1995. *Report of the International Conference on Population and Development, Cairo.* New York: United Nations, Document A/49/482.

[7] Khorram, S. and Wells, E. "Involving men in reproductive health." *Outlook.* 1997. 14,3:1-7.

[8] Mbizo M.T, Bassett M T. "Reproductive health and AIDS prevention in sub-Saharan Africa: The case for increased male participation." *Health Policy and Planning.* 1996. 11,1:84-92.

[9] Greene, M.E. *Male involvement in reproductive health: translating good intentions into gender sensitive programmes.* Rome: FAO WHO UNFPA. 1998.

[10] Schuler, SR, Hashemi SM, Jenkins AH. "Bangladesh's Family Planning Success Story: A Gender perspective." *International Family Planning Perspectives.* 21(4): 132-137.

[11] Lundgren R, Valmana D. *Strategies to involve men in reproductive care: From farm management to family management.* Tegucigalpa: PACO/CARE-Honduras and Population Council, 1996.

[12] Rimon, J G, Tweedie I. *Are men really from Mars? Lessons learned in communications for men.* John Hopkins Center for Communication Program. Baltimore, Md. 1996.

[13] Rimon, J G, Tweedie I. *Are men really from Mars? Lessons learned in communications for men.* John Hopkins Center for Communication Program. Baltimore, Md. 1996.

[14] Amatya R, Akhter H, McMahan J, et al. "The effect of husband counseling on Norplant contraceptive acceptability in Bangladesh." *Contraception* 1994; 50(3):263-73.

[15] Padian N.S, O'Brien T.R., Chang, Y. et al. "Prevention of heterosexual transmission of human immunodeficiency virus through couple counseling." *Journal of Acquired Immune Deficiency Syndrome* 1993; 6(9):1043-48.

contraceptive use nearly doubled among couples where both the husband and wife were counseled, in contrast to couples where only women received counseling.[16] A number of studies suggest that an important reason for this continuing unmet need is the husband's disapproval of contraception.[17]

In India, opposition of the husband contributes significantly to women's unmet need for contraception. According to the Third All India Family Planning Survey (1990), nearly one-fourth of respondents reported their husband's opposition as a reason for this unmet need. Religious belief was mentioned by 16 percent of the women interviewed: this percentage was much higher among Muslims than in the general population. [18] In-depth studies conducted in India cite three major reasons for male opposition to family planning. Many men genuinely believe that family planning methods have serious and adverse health consequences that may result in loss of their wife's labor. A strong desire for sons, by men, may also force a woman to continue childbearing, although she may not want anymore children. Some of the men's opposition to family planning, as expressed by husbands, is imbedded in their fear of adultery. They fear that a woman who is operated on (sterilization), or uses the IUD or oral contraceptives may indulge in extramarital sex.[19]

Access to services and information about male methods may also have an effect on their potential use. Although data suggests that men may accept and use natural methods, they are not included in the national family planning program in India. Consequently, family planning providers are not trained to discuss these methods with users. This is reflected in results of the 1998-1999 National Family Health Survey, which shows that while 98% of women knew of modern methods, only 55% were aware of natural methods.

Male involvement is believed to be even more important when a natural method is offered. For this reason, most natural family planning programs routinely include husbands in the instructional process. Understanding fertility and how to identify the fertile days of a woman's cycle, communication between partners, and the husbands' cooperation are all thought to be essential elements in the effective practice of a natural method.[20,21] There are no studies, however, that

---

[16] Terefe A, Larson C P. "Modern contraception use in Ethiopia: Does involving husbands make a difference?" *American Journal of Public Health* 1993;83(11) 1567-71.

[17] Operations Research Group (ORG). 1990. *Family Planning Practices in India: The Third all India Survey*. Monograph. Baroda, Inida: ORG; Khan, M.E. 1993*. Unmet Need for Family Planning in India: Voices from the field in Senanayake and Kleinman* (ed.s*) Family Planning Meeting Challenges: Promoting Choices.* London, The Parthenan Publication group; Perveen, S. et al. 1990*. Lesson learned from a Community Based Distribution Program in Rural Bihar.* Technical Paper. Delhi, India: Population Council.

[18] Piet-Pelon, Nancy, Rob, Ubaidur and M.E. Kan. 1999*. Men in Bangladesh, India and Pakistan: Reproductive Health Issues*.

[19] Perveen, S. et al. 1990*. Lesson learned from a Community Based Distribution Program in Rural Bihar.* Technical Paper. Delhi, India: Population Council.

[20] Helzner JF. "Men's involvement in family planning" *Reproductive Health Matters* 1996. 7, 146-154.

examine the effects on overall family planning use and continuation of providing fertility information and counseling to husbands.

III. STRATEGY

CARE-India incorporated the Standard Days Method into a USAID-funded community-based reproductive health project in Uttar Pradesh; "Improving Women's Reproductive Health and Family Spacing in the State of Uttar Pradesh", where activities in rural villages of Sitapur and Shahjahanpur districts were conducted.

This project aimed to improve reproductive health and create demand for the reproductive and child health services provided by the public sector. CARE community organizers selected and trained female community volunteers who held monthly educational meetings with groups of about 15-20 women. Participants, in turn, were expected to share this information with others. Membership in the groups changed approximately every year, in an effort to reach most women in the community. Community volunteers conducted reproductive health education with the assistance of auxiliary nurse midwives (ANMs) and provided condoms and oral contraceptives free of charge with government-donated commodities. Women were referred to government health services for IUD insertion or sterilization. Male volunteers also provided orientation on family planning and STIs to men's groups. Before the study began, natural family planning methods were not included in the birth-spacing options provided by the volunteers.

During the monthly meetings of women's groups, community volunteers, called group leaders, volunteer health workers, or animators[22]to provide information on reproductive health, including antenatal care, STI prevention and treatment, exclusive breastfeeding, and family planning. Volunteers in each study community were trained to provide basic information on fertility awareness and simply explain the women's reproductive cycle and that a woman is fertile on certain days of her cycle. They also introduced the SDM as a new option for spacing births. Volunteers explained that, like other methods, such as the oral contraceptive or IUD, SDM use does not prevent STIs. Volunteers also were trained counsel interested couples in the SDM. Cue cards, which explain the SDM were developed to help the volunteers conduct these activities.

---

[21] Diaz M. "Gender, sexuality and communication issues that constitute barriers to the use of natural family planning and other fertility awareness-based methods." *Advances in Contraception.* 1997 (13) 2-3:303-309.
Laing, John. Continuation and Effectiveness of Contraceptive Practice: A Cross-Sectional Approach, Studies in Family Planning, 16 (3), 1985.

[22] In this document, the term "volunteers" will be used to describe all three types of community volunteers functioning in CARE's programs.

IV. STUDY DESIGN AND METHODOLOGY

The feasibility and effect of including men in method counseling and targeting men for SDM promotion were tested in this operations research project. In half of the study communities, male and female volunteers were trained to provide information on the SDM. In the traditional (woman focused) model, information on the method was only provided by female health volunteers. In the alternative (male-involvement) model, male volunteers were also trained to provide information on the SDM. In both models, volunteers offered counseling to either women or men only or as a couple. When possible, counseling was provided to the couple together, however due to social constraints, counseling was sometimes provided separately to the man and woman.

A. Objectives and Research Questions

The major objectives of the study were:

1) Test the incorporation of the Standard Days Method into the CARE reproductive health programs in Sitapur.
2) Compare the effect of providing information and counseling on the SDM to women alone, versus providing counseling to men and women.
3) Determine whether male and female community volunteers can successfully teach the SDM.
4) Assess how women/couples use the SDM; whether they use withdrawal, barrier methods or abstain during the fertile days.
5) Explore user satisfaction, correct use and continuation rates of the SDM in the context of a community-based reproductive health program.
6) Measure the effect of the provision of the SDM on basic fertility knowledge and the use of other methods in Sitapur.
7) Explore the formal and informal diffusion process of the SDM in the community.

Through this operations research study, CARE determined the feasibility of incorporating the Standard Days Method into their program. Specifically, it aimed to establish whether volunteers can provide the SDM effectively and whether there is demand for the method. The study also explored the feasibility and impact of counseling women only vs. counseling both men and women on the SDM. This research prepared the way for CARE to incorporate the SDM into their program. Study results also provided vital information to guide the potential expansion of the SDM into the government family welfare program.

This study addressed the following questions:

1) Is it feasible for CARE to integrate the SDM into its reproductive and child health program?
2) Are female group leaders and male volunteers able to effectively teach the SDM?

3) Does counseling men as well as women result in a greater number of SDM users than counseling women only does? Which strategy results in more effective use of the method?
4) How do men and women perceive and use the SDM?
5) How does incorporating the SDM/FA influence the use of other methods?
6) How does information about the SDM/FA spread throughout the community? How accurate is this information? Do couples use the SDM without receiving the method from a provider?
7) What are the continuation rates of SDM use at six and twelve months?
8) What are the reasons for method discontinuation?

B. Study Design

CARE conducted the study in two blocks of the Sitapur district. The villages in Misrikh block received the experimental intervention - male involvement, while the villages in Khairabad were the control blocks, which had a traditional or women-focused intervention. In both blocks, female volunteers were trained. In Misrikh, male volunteers were also trained to provide information and counseling directly to men in their communities and through already established men's groups. If men expressed interest in the SDM, their wives were then visited by a female volunteer who would screen and counsel women on the use of the method. This strategy was used because it was considered unacceptable for volunteers to counsel potential clients of the opposite sex.

Table 1: Study Design

	Women-Focused Model (Khairabad)	**Male Involvement Model (Misrikh)**	**Total**
No. of villages	24	24	48
No of female volunteers (1-2 p/village)	28	28	56
No. of male volunteers (1-2 p/village)	n/a	27	27
No. of volunteers at end of study	28	55	83
Estimated # of eligible couples	4,080 (170 p/village)	4,080 (170 p/village)	8,160

Each model was tested in twenty-four rural villages in Uttar Pradesh. All of the communities chosen to participate in the study had active men's groups. SDM information was only incorporated into the family planning education provided to the men's groups in the communities assigned to the experimental model. A total of 56 female volunteers were trained in the study communities, which were one or two per village, depending upon its size. Additionally 28 male volunteers were trained in the experimental areas; also one per village in the experimental areas.

One male volunteer dropped out, leaving a total of 27 male volunteers at the end of the study.

CARE estimated that 170 couples of reproductive age resided in each village. Thus, the total target population in the study was about 8,000. CARE estimated that volunteers would be able to recruit and follow a total of 400 new SDM users.

The independent variable in this study was whether the male partner received SDM information and counseling within one month after adopting the method. The dependent variables include fertility awareness (ability to determine fertile window), family planning knowledge and use, user perspectives on the SDM, partner communication and participation in family planning use, utilization of services and diffusion of SDM knowledge throughout the community.

C. Data Collection and Analysis

Baseline and end line censuses identified women in union from 14 to 49 years and determined their family planning status. Subsequently, baseline and end line surveys were conducted of periodic abstinence and condom users identified by the census. Also, follow-up interviews were conducted with SDM users; and in-depth interviews and focus groups were held with SDM users and providers.

C.1. Baseline and Endline Census and Surveys

A household census in Sitapur was conducted in order to identify women of reproductive age. Community health workers conducted the census in 66 villages in both the experimental and control blocks[i]. TNS Mode, a consultant firm with ample experience in survey methodology, was hired to survey men and women of reproductive age who were identified in the community census as having an unmet need for family planning or who were using a traditional or natural method. The purpose of the survey was to assess changes in family planning knowledge, attitudes, practices and intentions post-SDM integration. The census and survey were repeated again in August 2003, 22 months after service delivery began. A separate report on the survey is available.

C.2. Follow-up Interviews with SDM Users

CARE field officers conducted follow-up interviews with SDM users. Information collected during these visits helped determine user satisfaction, correct use and continuation. Ideally, SDM users were to be followed for twelve cycles, as described below:

- Within ten days after learning how to use the SDM (admission)
- After one cycle of use (beginning of cycle 2)
- After three cycles of use (beginning of cycle 4)
- After six cycles of use (beginning of cycle 7)

- After nine cycles of use (beginning of cycle 10)
- After cycle 12 (beginning of cycle 13), or when the woman stops using the method. In this case an exit or discontinuation, an interview was conducted. If the woman became pregnant during the course of the study, she was also interviewed**.**

Cycle length was also monitored through the follow up visits. If at the time of a visit a woman's period was late, another interview was scheduled for sometime within the next 7 days. A third visit within another 7 days would be scheduled if she had still not menstruated. If a woman had not gotten her period by day 42 of her cycle, a pregnancy test was conducted by the Field Investigator. If the test was negative the user was advised to switch to another method because her cycle was outside the required range.

Information was collected during the follow-up visits from only women. Men in both study groups were interviewed after twelve months of method use or when the couple discontinued participation in the study. Men and women were interviewed separately, by interviewers of the same sex. Male or female volunteers accompanied interviewers on the admission interview to help locate users' homes and establish rapport with the SDM user.

C.3. In-depth Interviews and Focus Groups

CARE hired two consultants to collect qualitative information to assess the experience of SDM users, and explore the effect of method use on both the women's autonomy and the couple relationship. The research also explored the feasibility, effectiveness and acceptability of involving men in SDM service delivery, by comparing the experiences of providers and users in the two blocks. Interviews and focus groups were conducted with community volunteers and female and male SDM users, including those who discontinued method use. Data collection activities included:

- Four focus groups with men
- Four focus groups with women
- Ten in-depth interviews with men
- 16 in-depth interviews with women

A separate report on this evaluation has been prepared; key results are included here.

C.4. Data Analysis

Data was analyzed using frequencies and cross-tabulation; results of the baseline and end line household interviews were compared to measure differences in family planning and SDM/FA knowledge and use after SDM integration. A comparison was also made between the two experimental groups. Life table analysis was conducted to determine SDM continuation. Some

participants withdrew from the study before its completion or were lost to follow-up. However, life table analysis can account for such censoring. Continuation rates, correct use, partner communication and the degree of satisfaction with the method were compared between the two groups.

V. IMPLEMENTATION

CARE began implementing this study in May, 2001, through community volunteers, with the support and supervision of CARE field officers in May 2001. CARE hired one field officer and three field investigators to support volunteers in service delivery and to conduct follow-up interviews with SDM users. The field investigators in each area were responsible for monitoring project progress. The Institute for Reproductive Health provided technical support to the project through on-site visits and communication by telephone and e-mail. CARE collaborated closely with the local research firm that administered the baseline and end line surveys.

During the first three months of the study, client and provider materials were adapted, translated and pre-tested, including design and manufacture of the necklace. In addition, study instruments were translated and adapted. The baseline survey was also conducted during this quarter. A training of trainers, followed by a training of providers and interviewers was conducted in September 2001. Enrollment of clients began in November 2001.

Materials

Before training and service delivery began, CARE field officers conducted interviews with men and women to determine their attitudes and knowledge of natural methods and identify appropriate service delivery strategies; especially those which involve men. This information was then used to develop a training curriculum and provider and client materials. An appropriate Hindi name for the method, “Manka Vidhi” was selected based on the research. The results of the formative research show that most couples had no clear understanding of a woman’s menstrual cycle and could not identify their fertile and infertile days. Most women remembered the date of their last period based on the position of the moon as opposed to using a calendar. Women reported that an average cycle length of 25-30 days.

A curriculum for training providers, a service-delivery protocol, job aides, and materials for clients were developed and tested as part of the SDM efficacy study conducted in Peru, Bolivia and the Philippines. CARE translated, adapted, and pre-tested these materials for use in India. Training aids included pictorial flash cards to help low-literacy community volunteers screen potential SDM users for eligibility, a lunar calendar to estimate duration of the menstrual cycle and banners used during the community group meetings. CARE designed and produced the necklace, user carnet and calendar, and storage bag. The necklace used to track the menstrual cycle was redesigned and produced in

Delhi. Results of pre-testing suggested using the color red for the fertile days since couples typically associate the color red with “stop” or “danger”. This version of the necklace was produced by a local artisan; a local women’s sewing school in Sitapur made the bags, which were used to store the necklace and calendar.

An SDM user using her Cyclebeads changes the black ring from one bead to the next,

Selection and Training of Volunteers

The volunteers were selected from an area where CARE’s “Sangini” project was already in progress. A total of 56 volunteers were selected in the Mishrikh block; 28 were male volunteers. In the Khairabad block, 28 female volunteers were selected. In September 2001, volunteers received training on the Standard Days Method and on how to provide counseling to individual users and couples. The training was conducted by the District Training Team (DTT), which was trained in July 2001. The DTT consisted of CARE staff and representatives from the Health Department. A two-day training of the female volunteers was conducted in September wherein they were oriented about the method, the assessment criteria and counseling steps. In the follow up training, conducted in October, these topics were reviewed and emphasis was given to client follow up, couple use of the method and reporting. The male volunteers were trained in a two-day program in October. They were oriented about the method, its scientific basis, assessment criteria, counseling, follow up, their role as motivators for new clients and counseling of men who are using the method.

Women receive training and counseling in the SDM from a member of the DTT (District Training Team), which consisted of CARE staff and representatives from the Health Department.

Services

Services began in November 2001 and followed the guidelines that were set by IRH. Community volunteers offered the SDM free-of-charge to couples who were using either periodic abstinence, withdrawal, sporadically using condoms, or not using any method at all. Initial screening and counseling took place in the women's home and lasted about a half an hour. After one cycle of use, a follow-up counseling visit was made to each SDM user's home. Volunteers referred those women who were ineligible to use the SDM to government health services so they could receive another method. Volunteers explained the study to women, and if they agreed to participate, their contact information was provided to the Field Investigator. Subsequently, the Field Investigator visited each woman to admit her into the study. During the first three months of method use, volunteers met with users on an informal basis to help her mark the first day of menstruation on her calendar and reinforce method instructions. Follow up visits were conducted in response to requests from either users or based on their needs, which were identified by volunteers.

A File investigator conducting a follow-up visit with users admitted into the study. Users received follow-up based upon their needs, as identified by community volunteers.

Monitoring and Supervision

During the study, monthly meetings were held with volunteers from each block. In these meetings, volunteers submitted monthly reports and reviewed project activities. These meetings also provided a platform for discussing experiences, troubleshooting, and reinforcing knowledge and skills.

IEC Materials and Activities

Volunteers conducted group meetings in their villages to discuss the benefits of family planning, describe the different methods available and introduce the SDM. A cloth banner, which compared the necklace to a graphic of the menstrual cycle was used during the talks. Male volunteers conducted similar group meetings in their communities. They also counseled men on the method and referred couples to female volunteers for screening and counseling. Male volunteers suggested that having the Standard Days Method as the only topic in the meetings was not sufficient to retain the interest of male participants. Therefore, other health and development issues were also included in these meetings. Both male and female volunteers also conducted home visits to clients who needed additional support and motivation to help them use the method correctly and consistently.

In both blocks, orientation programs were conducted for the auxiliary nurses and midwives (ANM) and for the anganwadi workers (AWWs). The purpose of this activity was to raise their awareness of the SDM and obtain their support for SDM services in their respective villages. Since cooperation was sought from the Block Level Advisory Committee, they also received an orientation about the study. A Standard Days Method songbook was developed; it included songs about the method, safe motherhood, family planning and team building written by volunteers. These songs were regularly used as ice-breakers in the group meetings.

A couple from Uttar Pradesh receives SDM counseling from an ANM (Auxiliary Nurse Midwife).

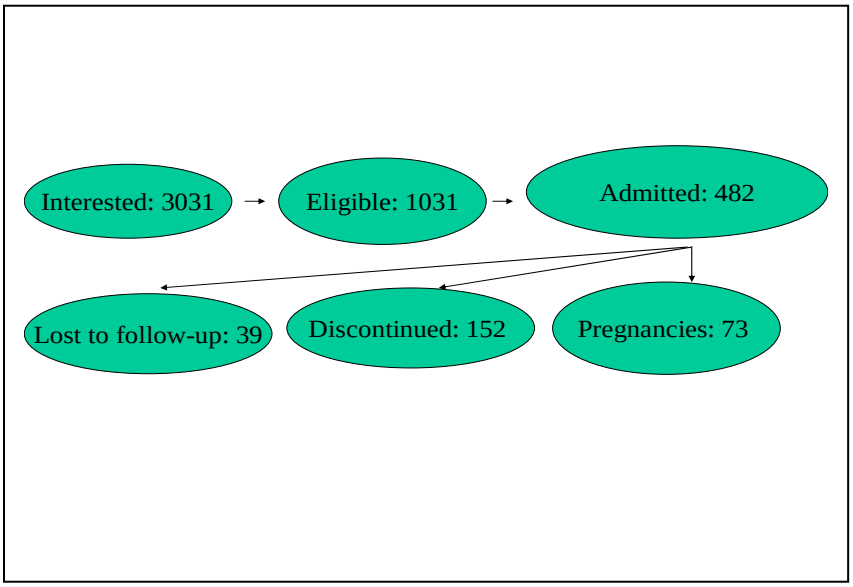
VI. Results

This section presents results of interviews with SDM users, as well as the findings from the baseline and endline surveys conducted in project communities and the qualitative assessment of SDM incorporation into Care's program.

A. Follow-Up Interviews with Users

According to CARE statistics, 3,031 women and men expressed interest in learning about the SDM. Of these, 34% were eligible for the method and 482 eventually accepted the method and entered into the study. Figure 2 presents the client flow from interest in the SDM to study participation.

Fig. 2: Flow diagram of women interested in the SDM



A. 1 Admission interview

Women who received the SDM and agreed to participate in the study were interviewed by a CARE field officer within ten days of receiving the method. A

total of 482 couples were admitted into the study, 54% from Mishrikh (experimental block) and 46% from Khairabad (women-focused block). The tables in this section present aggregate data for both blocks, unless significant differences were observed between study areas.

Table 2 represents the distribution of study participants by age, education, parity and breastfeeding status. The mean age of women was 29, while the mean age of their partners was 32. Over half (55%) of the women had never attended school, and mean parity was 3.8. Almost sixty percent of women (57%) were breastfeeding at time of admission.

Table 2: Distribution of age, education and parity among SDM users

	Women (n=482) %	**Husbands (n=482) %**
Age (in years)		
16-17	1.9	0
18-25	29	16.6
26-29	19.1	15.4
30-34	28.6	29.7
35+	21.4	38.4
Mean (Standard Deviation)	29 (5.6)	32 (5.8)
Highest grade completed		
Never attended school	55.2	18
Primary	17.2	20.1
Secondary	24.9	52.1
Technical/tertiary	0	1.2
University	2.7	8.5
Parity		
0	3.3	n/a
1-2	30.1	
3-4	45	
5+	21.6	
Mean (Standard Deviation)	3.8 (1.6)	
Breastfeeding at time of admission		
Yes	57.5	n/a
No	42.5	

Women were asked about previous family planning use to determine whether or not the SDM was reaching new users, or replacing other methods. The data presented in Table 3 shows that most of the new SDM users (59%) were first time family planning users. Among those who had used a method previously, most had relied on condoms; virtually none had been using the IUD or a hormonal method before initiating SDM use. Less than three percent of the women had been doing something to prevent pregnancy in the two months prior to adopting the SDM; ten were using the condoms and one withdrawal.

Table 3: Percent distribution of women according to their contraceptive experience, by experimental group

	Mishrikh (n= 259) %	Khairabad (n=223) %	Total (n=482) %
Ever use of family planning			
Yes	31	52.5	41
No	69	47.5	59
Method Used			
None	69	47.5	59
Avoided sex on certain days (periodic abstinence)	5	9	6.5
Withdrawal	1	0	1
Condom	25	43	33
Pills/Oral contraceptives	0	0.5	0.5
Use of FP method during last 2 months			
Yes	2	3	2.5
No	98	97	97.5

Table 4 presents the distribution of study participants according to their primary source of information on the SDM. It shows that the majority of users heard about the method for the first time from the female volunteer (92%). Most women chose the method because it was affordable (62.9%), there is no need to take or use anything (64%), and it does not affect a woman's health (30%). It is interesting to note that 8% chose the SDM because their husband opposes other methods.

Table 4: Primary source of information and reasons for choosing the SDM by experimental group

	Mishrikh (n=259) %	Khairabad (n=223) %	Total (n=482) %
First source of SDM information			
Friend/Family/Neighbor	1.5	1.3	1.5
Provider (male)	2.3	.4	1.5
Provider (female)	92.3	92.8	92.5
Community outreach	2.7	2.6	2.7
Other	1.2	2.7	1.9
Reasons for choosing SDM*			
Inexpensive/Economical	83	39.5	62.9
Husband opposes other methods	3.9	12.6	7.9
Does not affect woman's health	21.2	39	29.5
Religious reasons	.37	2.2	1.2

No need to take or use anything	68.7	59.2	64.3
It does not affect breast feeding	11.6	.9	6.6

* Multiple responses

One objective of this study was to determine whether involving men in counseling improved method use. Therefore, women were asked during the admission interview whether their husbands had received any instruction in the SDM, and if so, from whom. In Mishrikh, where male volunteers were trained, 40% of men received counseling from the female volunteer and 40% from the male volunteer. In Khairabad, the majority (88%) learned about the SDM from their wife.

Table 5: Source of information for male SDM users by study group

	Mishrikh (n=259) %	**Khairabad (n=223) %**	**Total (n=482) %**
Source of information received by men			
None	.8	1.3	1
Wife	15.4	87.9	49
Male volunteer	40.9	7.6	25.5
Female volunteer	40.5	2.2	22.8
Other	2.3	.9	1.7

A.2. Follow-up interviews

Women who adopted the SDM and agreed to participate in the study were interviewed at the end of their first, fourth, seventh and tenth cycles of SDM use. At each follow up interview, interviewers asked respondents questions to ascertain whether they were using the method correctly. Interviewers also verified whether the ring was on the correct bead according to the first day of menses marked on the user's calendar.

A.3. Correct knowledge and use of the SDM

Table 5 presents data on women's knowledge of key aspects of SDM use such as placing the ring on the red bead on the first day of the cycle, marking the calendar, moving the ring daily, avoiding unprotected sex on the days indicated by the white beads, availability of the brown beads for unprotected sex and moving the ring in the correct direction. Interviewers asked respondents to cite these elements spontaneously, and then prompted for any elements which were not mentioned. The table below presents a scale for spontaneous and prompted responses for each follow-up visit. Almost 30% of users were able to mention five out of the six responses at the first interview. This percentage increased to 65% by the fourth interview. Women were also asked how they would know if they

were experiencing a short or long cycle; about 80% of the respondents were able to answer correctly. All women correctly stated that they should avoid unprotected sex on the days represented by the white beads.

Table 6: Correct knowledge of SDM use, by follow-up interview

	Follow Up			
	1st (n=423) %	2nd (n=34 %	3rd (n=285 %	4th (n=230) %
Knowledge scale				
-Any one out of six	.7	.6	.4	0
-Any two out of six	6.1	2.5	0	.4
-Any three out of six	17.7	12.6	5.6	7
-Any four out of six	36.2	34.5	20	8.7
-Any five out of six	29.8	38.9	58.2	64.8
-All six	7.8	10.9	15.4	18.7
-None	1.7	0	.4	.4
How to identify a short cycle				
-Correct	7.6	16.5	19.9	21.3
-Partially correct	73.5	80.1	75.1	83
-Don't know	19.6	5	2.6	.4
-Other	2.6	2.3	.3	1.3
How to identify a long cycle				
-Correct	72	79	50.7	77.4
-Partially correct	7.4	10.3	30.4	20.8
-Don't know	19.4	9.8	9.6	1.7
-Other	0	.6	.6	0
Correct identification of the fertile days (white beads)				
-Correct	100	100	100	100

The effectiveness of the SDM depends on correct use. The results in Table 7 suggest that most women were able to use the method correctly from the first cycle of use. At the first interview, almost all women had the ring on the correct bead and reported that they had avoided unprotected sex on the fertile days of their previous cycle. Over time, couples became more adept at managing the fertile days. As one woman explained, "*On the white bead days I simply say no. Now, I am no longer afraid to say no to him."* Virtually all women reported that they moved the ring daily. CARE personnel were initially concerned that women, many of whom illiterate and unaccustomed to using a calendar, would be unable to mark the first day of their menstruation on a calendar. Indeed, the results show that only 40% of women marked the calendar themselves. However, because the volunteers live in the same communities as the users, they were able to mark the calendar for their clients. In some cases, husbands marked the calendar for their wives.

Table 7: Correct SDM use, by follow-up interview

	Follow Up			
	1st (n=423) %	2nd (n=348) %	3rd (n=285) %	4th (n=230) %
Ring on correct bead	97.4	97.2	96.5	94.8
Moves ring daily	100	99.4	99.6	100
Who marks the calendar				
-Client	40.7	42.9	40.4	44.3
-Husband	7.1	9	9.1	8.7
-Provider	48.9	44.3	46.7	43.0
-Others	3.3	3.9	3.9	3.9
Avoided unprotected intercourse during the fertile days	98.8	97.5	97.9	100

A.4. Male participation in SDM use

Effective use of the SDM requires the participation of both men and women, and CARE encouraged male involvement in SDM counseling and use. Women reported that their husbands participated by abstaining or using a condom during the fertile days. Virtually all of the women reported that their husbands could identify the fertile days. CycleBeads were designed, in part, to increase couple communication about the fertile days. When asked how their husbands identified the fertile days, 72% of women interviewed after one cycle of use stated that they informed their husbands which days were fertile. This percentage increased to 96% over the year; while the percentage of men who looked at the necklace to determine whether their wife was on a fertile day declined somewhat (Table 8).

Table 8: Male participation in SDM use, by follow-up interview

	Follow Up			
	1st (n=423) %	2nd (n=348) %	3rd (n=285) %	4th (n=230 %
How does your husband feel about managing about the fertile days?				
-He prefers abstinence to condom use	44	48.5	40	33.5
-He combines abstinence w/condom use	12	9	9.5	18.3
-He feels secure in our knowledge of the fertile days	37	39.5	49.8	48.2
-Other/no particular opinion	7	3	.7	0
Can your husband identify the fertile days?				
-No	0	.3	0	0
-Yes	100	99.7	100	100
How does your husband identify the fertile days?				
--looks at necklace	30.3	29.1	31.9	27.4
-- I tell him	71.9	69.2	89.5	95.7

-- He keeps track of the calendar	2.1	1.1	3.9	9.1
--Talk + refer to necklace	.9	0	0	0
--Other	4.3	.3	0	.9

A.5. Effect of SDM use on couple relations

Because SDM use requires participation of both men and women, it was hypothesized that its use would influence couple relations. During follow-up visits, interviewers asked study participants whether the use of the SDM had any effect on their partner relationship. The results show that the percentage of women who noted a change in their relationship increased from 47% at the first interview to 92% at the time of the fourth interview (Table 9). In all cases, this change was positive; women cited increased communication, affection, and confidence. As one woman explained, "*Before this, I used the abstinence method adhering to traditional beliefs handed down by the village elders…Abstinence was a unilateral decision on my part and when my husband wanted intercourse during the fertile days I resisted. This would often lead to tension between us. With the use of the SDM, our relationship has improved. Now there are fixed days for abstinence and my husband no longer forces me to have sex*."

Table 9: Effect of SDM use on couple relations, by follow-up interview

	Follow Up			
	1st	**2nd**	**3rd**	**4th**
	(n=423) %	**(n=348) %**	**(n=285) %**	**(n=230) %**
Has your relationship with your husband changed since you began using the SDM?				
-Yes	47.5	58	76.5	92.2
-No	52.5	41.7	23.5	7.8
How has it changed?				
-More communication	7.3	10.6	21.1	15.2
-More affection/understanding	15.4	6.4	11.9	14.3
-Increased relaxation/sexual pleasure due to confidence in identification of fertile days	35.4	47.4	63.9	84.3
-Other	.9	0	0	0

Women were asked if their husbands ever insisted on having sex on a fertile day. This was only reported in the first follow up visit by 1.4% of the users. During the other interviews, no women reported this problem.

All of the women interviewed at each follow-up visit reported that they planned to continue to use the SDM, and that their husbands were in agreement with this decision.

B. Exit data

Of the 482 women who entered the study, exit interviews were conducted with 200 women who completed one year of method use. A total of 312 men were also interviewed at exit in order to assess their opinion of the SDM.

B.1. Reasons for leaving the study

Slightly less than half of the women completed 13 cycles or one year of use (41%). Additionally, about four percent of study participants were still using the SDM at the time the study ended; because they were enrolled in the study towards the end of the recruitment period. Approximately 20% of participants exited because they had two cycles out of range. A small percentage of women discontinued SDM use for personal reasons over the course of the year (13.7%), including 4% who returned the necklace at the time of the admission interview, having changed their mind about using it, perhaps due to the advice of their husband or mother-in-law. Over half of the women who exited the study for personal reasons, reported that their husbands did not want to continue using the method and 20% did not want to continue providing information to interviewers.

Table 10: Status at End of Study

Status of Users	N=482	%
Completed 13 cycles	200	41.5
Exited due to 2 cycles out of range	87	17.8
Exited due to personal reasons	65	13.7
Still using at time study ended	18	3.7
Lost to follow-up	39	8.1
Pregnancy (reported correct use)	17	3.5
Pregnancy (reported incorrect use)	56	11.6

B.2. Satisfaction with the SDM

Virtually all men (97%) and women (99.5%) who were using the SDM at the time of the exit interview, planned to continue using the method. When asked if they would recommend the SDM to others, 90% of women and 70% of men responded affirmatively. The reasons they gave for recommending the method were that it identifies the fertile days and has no side effects. Table 11 presents information on the advantages and disadvantages of the SDM, as perceived by male and female SDM users. Some differences were observed between men and women. Women focused on the fact that the method is effective and that there is no need to take or use anything, while men appreciated the fact that it is natural and affordable. Most men and women mentioned that there is nothing they did not like about the method.

Table 11: Satisfaction with the SDM

	Exit	
	Men (n=178)	**Women (n=200)**
What do you like the most about the SDM?*		
It is effective	10.3	36.6
It is natural, does not affect health	80.1	15.9
Everything	1.6	25.9
It is easy to understand	6.7	0.3
It is inexpensive	27.6	3.7
It is not dependent on supplies/services	5.8	0.0
The white beads that shine	0.0	0.9
Client enjoys 'rest' during the fertile period	2.2	0.0
It allows them to identify fertile days	12.8	25.6
No need to take or use anything	3.2	37.5
What do you like least about the necklace method?		
Abstinence	2	2.1
Having to stop using it due to irregular menstrual cycle	.3	1.4
Moving band each day	.3	4.5
Nothing	97.4	92.0
Would you recommend SDM to others?		
Yes	75	97.4
No	24	.3
It depends	1	2.3
Reasons for recommending the method		
It teaches about safe and unsafe days	44.2	42.8
No side effects	54.7	55.0
Others	1.1	2.2

**Multiple Responses*

It is interesting to compare satisfaction with the SDM among users in Mishrikh and Khairbad. According to analysis of data from the exit interviews, virtually all men and women intend to continue using the SDM. No difference was observed between the experimental groups. Similarly, when asked if they would recommend the SDM to others, virtually all women in both blocks would recommend the method. However, almost twice as many men in the male involvement block reported that they would recommend the SDM to others, as compared to men in the traditional block. A possible explanation for this is that the male volunteers in Mishrikh provided role models for men, thus increasing their comfort with the idea of discussing family planning. The focus on male involvement in Mishrikh may also have contributed to a more conducive setting for communication among men about family planning.

Table 12: Intention to continue use and willingness to recommend the SDM, by sex and experimental group

	Mishrikh (*male involvement)* %		**Khairabad *(female-focused*)** %	
Intention to continue SDM use				
Women	(n=118)	99	(n=82)	100
Men	(n=116)	99	(n=62)	92
Would recommend SDM*				
Women	(n=200)	98	(n=160)	96
Men	(n=116)	90	(n=62)	47

B.3. Influence of the SDM on the Couple Relationship

Interviewers asked men and women if using the SDM had influenced their relationship. The majority responded by saying that they felt more certain of the fertile days. This is a salient point for respondents because most of the new SDM users had previously been abstaining or using condoms on the days they identified as fertile; however none had correct information or specific strategies for identifying those days. Both men and women reported that SDM use had increased communication and affection in their relationship; although men were more likely to mention this than women. Twice as many men as women reported increased communication with their partner (27% vs. 13%, respectively). As one woman stated, "*I feel good that my husband now understands how my body works. He pays attention to my suggestions and respects my wishes. For the first time he asks me if we can have intercourse. I am happy that he cares about me."* However, ten percent of men did mention discomfort or anger dealing with the fertile days.

B.4. Method use

Most couples practiced abstinence during the fertile days, although some used the condom as an alternate method. Women were more likely to mention condom use than men. One woman explained, "*If my husband does not want to abstain I hand him a condom, which I usually keep in my blouse during the white bead days*."

Table 13: Managing the fertile days, by sex

	Exit	
	Men (n=178)	**Women (n=200)**
Management of the fertile days		
Abstinence	87.7	68.5
Mostly abstinence, with condom back-up	11.1	1.7
Condom use	1.2	29.8
Influence of SDM use on the couple relationship*		
None	15.4	14.2
Increased communication	26.6	13.4
Increased affection/understanding	33.0	19.3
More confidence in the days available for sex	51.3	66.5
Husband not angry, but uncomfortable	3.8	0.0
Husband angry when wife refuses sex	6.4	0.0
Others	0.0	5.1

When asked what they found easy or difficult in the use of the SDM, 98% of women and men said that overall the method was easy to use. Specific aspects were then prompted and men and women were asked whether they found them easy or difficult. Virtually all of respondents (98%) characterized specific aspects of method use such as moving the band daily, marking the calendar, and managing the fertile days, as easy to handle. Despite initial concerns about the feasibility of the calendar among this rural population, 99% of women and 88% of men reported that they found it useful to mark the first day of menstruation on the calendar.

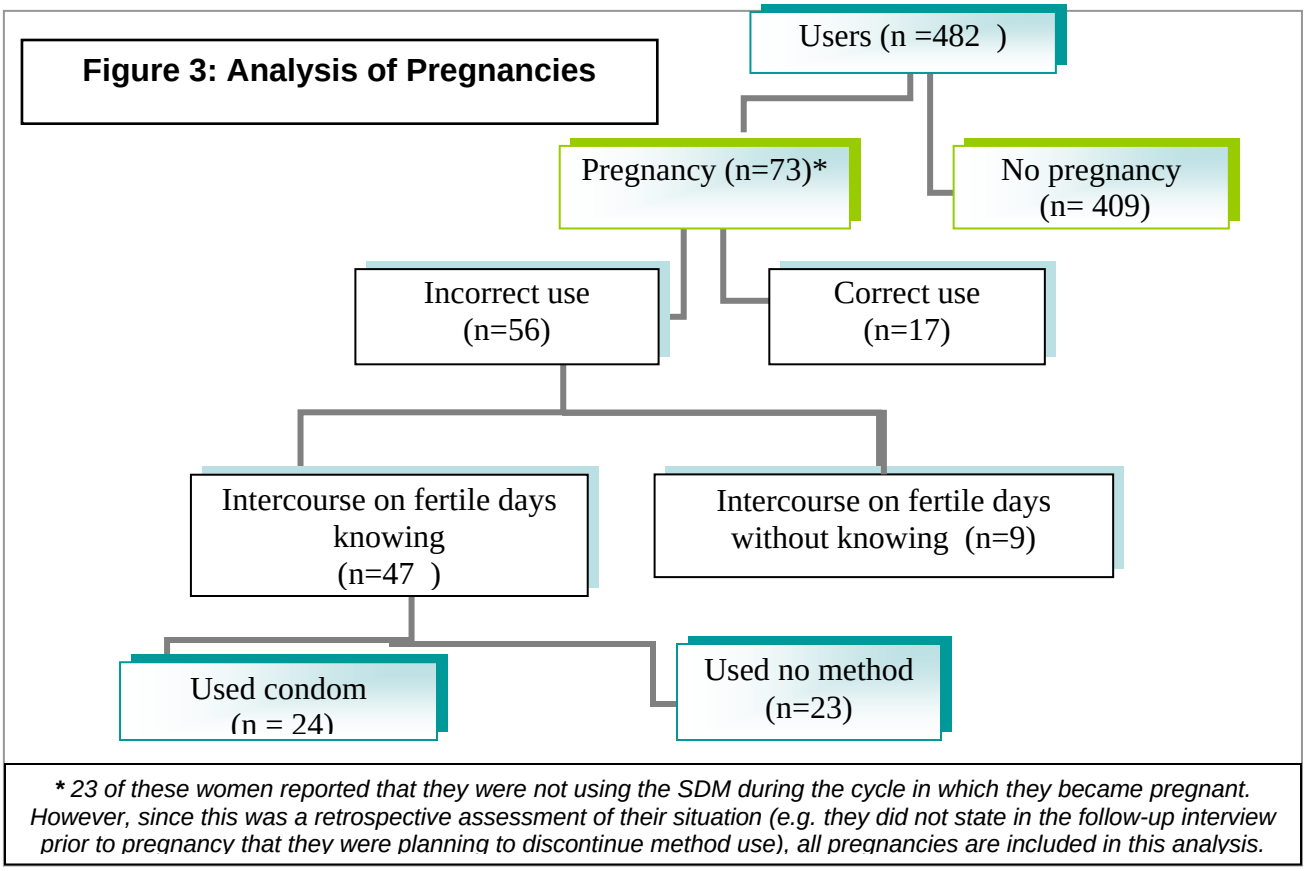
In order to probe for difficulties using the SDM, interviewers read a series of vignettes to respondents and asked if they had experienced any of the problems mentioned such as the husband insisting on sex during the fertile days. Most of the men and women (over 90%) reported that the problems mentioned in the stories had not occurred, except that 25% of women stated that they had forgotten to move the black ring at least once. However, they reported that when this happened they checked the calendar and moved the ring to the correct bead. Only 7% of the men reported this problem.

B.5. Pregnancy Interviews

Among the 482 women enrolled in the study, 73 (15%) became pregnant; 31 from Mishrikh (12%) and 42 from Khairabad (19%). Women who became pregnant while enrolled in the study were interviewed to determine whether the pregnancy was due to method failure or incorrect use and to identify factors related to method failure. A series of questions were asked relation to the key elements of method use. It is interesting to note that 23 of these women reported that they were not using the SDM during the cycle in which they became pregnant. However, since this was a retrospective assessment of their situation

(e.g. they did not state in the follow-up interview prior to pregnancy that they were planning to discontinue method use), all pregnancies are included in the analysis below. Of the 73 women who reported a pregnancy, 17 can be attributed to method failure; these women reported that they used the method correctly. The majority of pregnancies occurred due to incorrect use; 47 women reported that they knowingly risked pregnancy by having intercourse on a fertile day. About half of these women reported using a condom and the remainder used no method. Details of the pregnancies are presented in Figure 3**.**

Figure 3: Analysis of Pregnancies



***** *23 of these women reported that they were not using the SDM during the cycle in which they became pregnant. However, since this was a retrospective assessment of their situation (e.g. they did not state in the follow-up interview prior to pregnancy that they were planning to discontinue method use), all pregnancies are included in this analysis.*

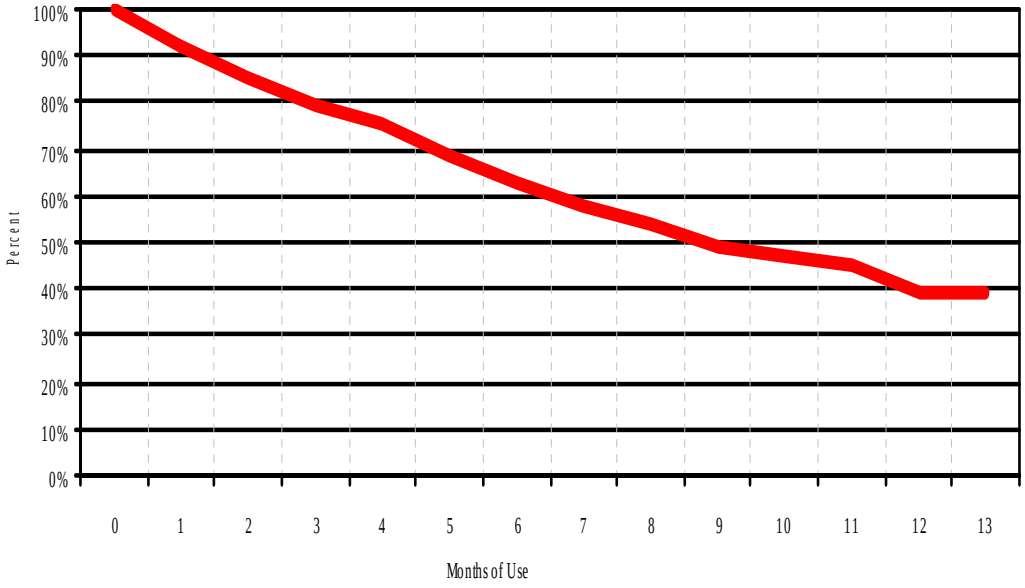
Interviews with the pregnant women explored factors which may be related to incorrect method use, and consequently pregnancy. These results follow:

- 92% of women said they moved the ring daily.
- 99 % women marked the first day of their menstrual cycle on the calendar.
- 64% knowingly had sex on a fertile day during the cycle they became pregnant.
- Over half of the women who became pregnant (52%) reported that their husband insisted on having sex during a fertile day.
- Only 4% reported that alcohol use made it difficult to avoid unprotected sex during the fertile days.

B.6. Cumulative Discontinuation Rates

The cumulative discontinuation rates presented in Figure 4 demonstrate that by the end of twelve cycles of use, forty percent of the users who started the SDM continued using the method. The other 60% discontinued due to out of range cycles, personal reasons, pregnancy, or were lost to follow up. Of those who did not complete 13 cycles, the largest group exited due to out of range cycles (18% of all women who entered the study). The highest number of discontinuations occurred in the first month of use (40). The users who completed the first month of use increased their probability of continuing to use the method for one year. After six months, more than half of the women (62%) were still using the method.

Figure 4:
Cumulative Discontinuation Rates (n = 482)



A number of independent variables were analyzed to determine their influence on SDM continuation. These include prior family planning experience, age, education, male involvement, parity and reason for selecting the method. Cumulative continuation rates were calculated for each category, and the results show that these variables did influence continuation, with the exception of parity and reason for use.

Age

Looking first at age, results show that starting from the second month of SDM use, method continuation was better among users over 25 years (69.1%), than among women 25 years or under (30.9%). These differences are statistically significant ($p \leq .05$). In other words, the user's age influences continuation; the SDM is used for a longer period of time by older users. Older women used the

method for an average of 11.6 months, and younger women used it for an average of 7.6 months.

Education

The influence of the user's educational level on program effectiveness is statistically significant after the fourth month of use ($p \leq .05$), with higher effectiveness among women with some level of primary education (44.8% of all users) compared to women with no formal education (55.2%). In other words, the user's education level in the India CARE program influenced the effectiveness of SDM use.

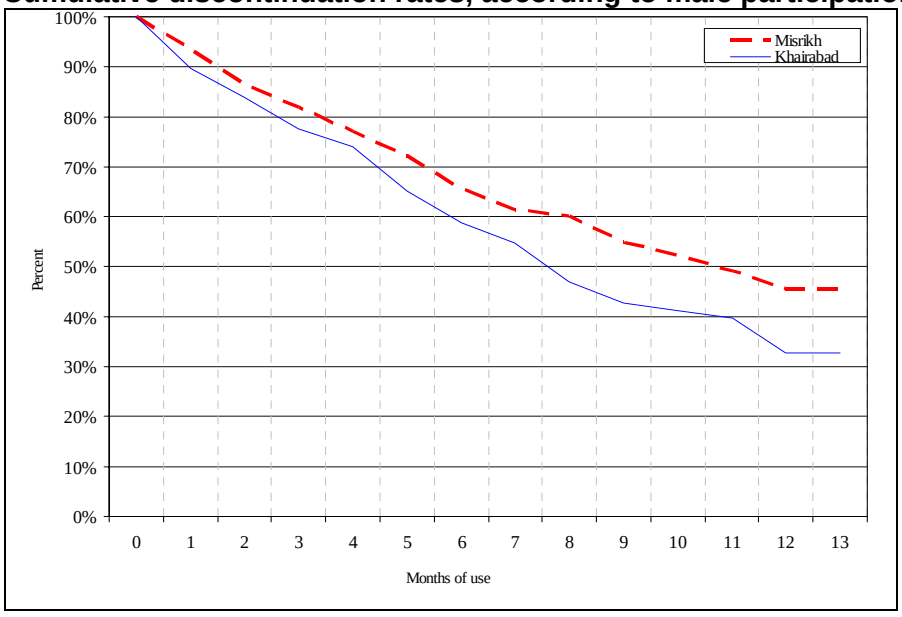
Prior Family Planning Experience

Among SDM users, 54.8% had some prior experience with contraceptive use, and the remaining 45.8% had no prior experience. The program effectiveness of the SDM was higher among users with contraceptive experience than among those with no prior experience, with the difference being significant starting from the ninth month of use ($p \leq .05$).

Male involvement

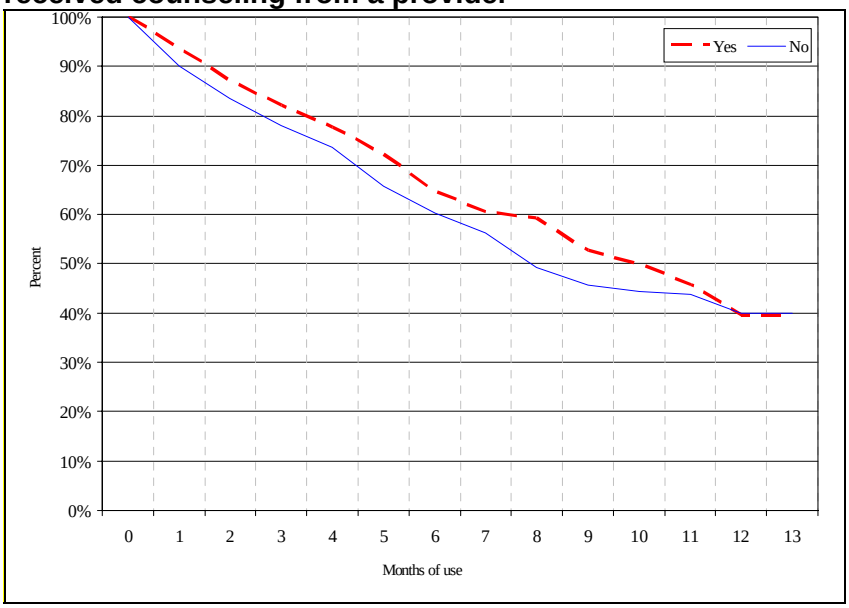
In Mishrikh (accounting for 54% of the users) male volunteers provided information and SDM counseling. Only female volunteers were trained in the SDM in Khairabad. Continuation rates were better among Mishrikh users than among users in Khairabad. However, the differences are only statistically significant starting from the seventh month of use ($p \leq .05$) (Figure 5).

Figure 5:
Cumulative discontinuation rates, according to male participation



Another way to examine effects of male involvement is to analyze the data by whether or not men received counseling from a provider during the first cycle of method use. In Mishrikh, men were involved in provision of the method, and 81.4% of men received counseling from a provider. On the other hand, in Khairabad where men were not involved as counselors, only 9.8% of the men received counseling from a provider. Method continuation was better among users where both members of the couple received counseling compared to those couples who did not. However, the differences were not statistically significant ($p \leq .05$) except in the eight month (Figure 6).

Figure 6:
Cumulative discontinuation rates, according to whether the man received counseling from a provider



C. Qualitative Assessment

In April, 2004, CARE hired two consultants to document and evaluate the process of SDM introduction. This assessment used focus group discussions and in-depth interviews to determine community perceptions of introduction of the SDM. The study also examined the acceptability and feasibility of the different service delivery strategies, which included community-based provision of the SDM and use of male volunteers. Focus group discussions and in-depth interviews were conducted with women and men who were using the SDM, who had discontinued method use or become pregnant, and with female and male volunteers. All the participants were between 25-40 years and most were farmers belonging to the lower socio-economic strata. A few also had other sources of income, e.g. shops or they worked as laborers. All of the women were homemakers. A total of eight focus group discussions were held, equally divided between men and women in the two study blocks. In-depth interviews were conducted with 10 men and 16 women. No significant differences were revealed

between the male and female groups and the experimental and traditional blocks. Therefore, observations have been combined with specific mention of differences whenever necessary. This section presents key findings; a complete report of the qualitative assessment is available.

Awareness of FP methods

Most respondents were aware of the different family planning methods, e.g. condoms (*nirodh*), oral pills (*Mala D, Saheli*), Copper T, and sterilization. All were also aware of the SDM, which is known as *mala vidhi* (necklace method) *or manka vidhi* (beads method). Respondents had received information on family planning from the auxiliary nurse midwife (ANM), village meetings, CARE project staff, local volunteers, radio, television and newspapers, wall writings, government or voluntary agencies and local hospitals. The Anganwadi Center and ANM were important sources of information for women, although not for men. All respondents felt that condoms were easily available from government agencies or could be bought from local shops. Some men stated that they were previously ill-informed about family planning methods; but since the introduction of SDM, their interest and knowledge had increased. As a result, men feel that they are in a better position to understand other family planning methods as well. Participants felt that the SDM needs to be publicized more so that other people can adopt it.

Raising Awareness of the SDM

Most users learned about the SDM through village meetings in which the SDM and other methods were discussed. Similar meetings were organized at the Anganwadi centers, and were attended by community members and the local health committee. Many also mentioned hearing about the SDM from community volunteers. Some couples decided to begin using the SDM as soon as it was introduced, while others adopted the method only after they saw that others were using it successfully.

Providing the SDM

The volunteers explained that their primary responsibility was to inform community members about the SDM and to teach couples how to use it. They stated that initially they had to spend some time explaining the method, however once it was understood; all that was required was periodic stock taking with the user. During follow up visits with couples using SDM, the volunteer would verify whether they were moving the ring and marking their calendars correctly. They would also try to solve any problems the couples had faced using the method and reinforce the need to abstain or use a condom during the fertile days.

When asked about the challenges they faced introducing the SDM into their communities, a few volunteers mentioned that some couples doubted its effectiveness because it appeared either too simple to them, "*How can you prevent pregnancy without eating or using anything*?" or too confusing, "*Moving*

the ring each day is a difficult proposition, have too much on our mind to remember this detail." Other challenges they reported were that use of the SDM requires care during the fertile days. They remarked that it may be difficult for the wife to convince her husband to abstain or use a condom if he returns from out of town during the fertile days. They also stated that a few illiterate men and women had difficulty understanding the calendar and they had to explain it to them several times. Finally, the volunteers remarked that asking women with out of range cycles to discontinue SDM use caused disappointment in the community.

The results of the qualitative assessment suggest that the presence of both male and female providers facilitated men's involvement in SDM use by bridging information gaps between women and men and reduced male opposition to family planning. Most users and volunteers agreed that providers of both sexes are needed, given that women can only discuss matters related to sex without embarrassment with other women and the same goes for men.

A comparison of the results by block suggested that the men from the experimental block (Mishrikh) had a better understanding of the SDM, perhaps because it had been explained to them directly by male volunteers. In fact, male respondents, especially from the traditional block (Khairabad), felt that their wives were unable to clearly explain the concept of fertile and infertile days. Cooperation between husbands and wives was also more evident in the male involvement communities. In the communities where only wives were informed, most of the husbands were unable to explain the fertile days, although they followed the instructions of their wives to abstain or use a condom on particular days.

Acceptance of the SDM

Almost all SDM users were satisfied with the method and intended to continue using it. The SDM in Hindi is also called *"manka vidhi*" or the bead process. Both men and women found the method simple, convenient, inexpensive and effective in preventing pregnancy. They appreciated the fact that the method was non-intrusive, since they did not have to ingest or insert anything into their bodies. The only thing required is the discipline to mark the calendar monthly and move the ring each day. One female respondent called it *"manki vidhi*", punning on the word "*manka*". "*Manki vidhi*" would mean "a process after my heart!" Many users were eager to share the benefits of the SDM with neighbors, relatives and friends. All the respondents were aware that they needed to abstain from sexual relations on the white bead days and that both partners must consent to this. None felt that there were any problems with this method. Some mentioned that in case of uncontrollable desire, they could use a condom. In the case of women who forget to move the ring daily, some respondents pointed out that as long as you mark the first day of menstruation on a calendar, it is possible to correct any errors.

Participants were asked to recommend a price for the mala (necklace) and calendar. About half the respondents agreed that it could be sold at a nominal

cost of Rs. 5-10. They believed since the SDM is a good and effective method and involves no recurrent expenditures, people would not have any problem buying it. However, some felt that it should be made available free of cost.

Increased Fertility Awareness among SDM Users

The comments of both users and volunteers suggest that the fact that the SDM is based on an improved understanding of the menstrual cycle increases couples' sense of control. Generally speaking, most villagers have great faith in the magical powers of medicines and doctors. Many elements of medicine—which use many English words—are not well understood by them. Most service providers make little attempt to explain them. Because learning to use the SDM entails an understanding of the menstrual cycle and how the method works, users find the experience empowering. One user exclaimed, "*Knowledge of safe and unsafe periods with the SDM has been liberating*!" A few men responded that the SDM helped them develop their self confidence, enabling them to plan their family without assistance from doctors or service providers, as long as they use the method properly, which means little chance of an unwanted pregnancy.

SDM users felt confidence in the method because they now understand their fertile period. Some women mentioned that they had heard from their mothers and grandmothers about the woman's "safe period," but they now realize they had incorrect information. "*We had heard from our grandmothers and used to think that from day one of period up to 20-22 days were unsafe and we should abstain during that period*." Women reported that this new knowledge increased their confidence; "*Now we know about our bodies and how to protect ourselves during the unsafe days. Because of the necklace we now know how our period comes*." As a result of this understanding, some women are better able to negotiate sex with their partner. This knowledge, coupled with the commitment of their partner, to abstain or use a condom during the fertile days, leads to successful use of the SDM.

Some couples have also used the method to conceive. After using the SDM, they became aware of the fertile period. By having sex without protection on the unsafe days, they achieved pregnancy. "*In fact, one person I know was married for 18 years with no child. She used this method and now has a child*." commented one volunteer.

Improved Couple Relationship

SDM users commented that use of the SDM led to improvements in their relationship with their partner, in part due to greater consensus about when to have sex and the freedom to have unprotected sex on non-fertile days. One user commented, "*Before, we would end up having sex using a condom all through the month, now we need to use a condom only during the unsafe period.* One woman explained how she and her husband use CycleBeads to negotiate sex,

"*Has your ring moved? Are you white or green today, he'll ask. "Especially if have we have had a minor tiff, this immediately diffuses the tension! I often tell him, go check for yourself*."

Couple communication facilitates correct SDM use. SDM users reported that since using the method, communication with their partner had improved considerably, making it possible for women to talk more freely with their husbands about their fertile days and the need to use condoms. Also, some women remarked upon a newfound intimacy with their partners, '*Has our ring moved?*", "*How are the beads placed tonight*?", one user related how she and he partner joke together about the fertile days. Some users remarked that improvements in their relationship are reflected outside of the sexual arena as well, "*During the abstinence period, my husband spends more time with me going out and visiting family*," explained one woman.

Managing the Fertile Days

Most couples managed the fertile days by abstaining, with condoms as a back-up. One woman explained, "*My husband and I wait for the fertile days to pass and after the wait, we can get together*." A male user commented, "*Once the unsafe (fertile) period is over, there is relief, and happiness and no fear of pregnancy…it is definitely better to wait*." Culturally, abstinence is valued in India; during certain sacred periods couples abstain from sexual activities. Therefore, abstinence is viewed as a way of life rather than a violation of normal sexual activity. Traditional Hindu women normally fast during one or two days each week, on these days they usually do not have sexual relations. For Muslims, during the period of Ramzan, a month before Eid, sexual activity is not permitted.

Neither male nor female users voiced major problems with abstaining during the fertile days, and condoms were seen as a viable option for couples who wanted to have sex during this time. In fact, a few women said they would be happy abstaining for a longer period than just 12 days. This could be due to several reasons. Traditionally, well brought up women are not expected to have a sexual appetite, and if they do, they most certainly do not talk about it. It could also be that lack of privacy precludes foreplay or post-coital intimacy making the act more male centric, restricting it to the need to ejaculate. As a result, women may not genuinely enjoy intercourse much.

Although condoms were available within the communities, either through the ANM, village volunteers, hospitals, or local stores, many couples did not purchase them. This could lead to problems for some women, since without the availability of a condom; they may be unable to avoid unprotected sex during the fertile days. Similarly, although condom use was common during the fertile days, users found them difficult to dispose of, messy, and felt that they reduced sexual satisfaction. Also some women reported that some men do not like the idea of using a condom on a regular basis.

Couple Decision-Making: Factors Affecting SDM Use

According to the results of the focus groups and in-depth interviews, men and women are not equally involved in decisions related to sex and family planning. Women typically assume responsibility for choosing a method of family planning while men usually initiate sex. Most men stated that family planning was the women's responsibility, and maintained this opinion even after adopting the SDM. The decision and initiative to have sex depends on the husband. In most cases, however, decisions regarding condom use during the fertile days are made by the wives. A few male respondents admitted that if they do not arrange for condoms during the fertile days, then their wives don't allow them to come close.

Many men reported that they had forced their wives to have sex with them at some point during their relationship. Researchers commented that forced or coerced sex is often considered acceptable within certain cultural contexts in India, and female respondents asserted that there had been no change in this regard since adopting the SDM. Since consent of the wife is not always required for sex, correct use of the SDM depends on men's willingness and ability to use condoms or abstain during the fertile days. This finding highlights the importance of male involvement. "*Even if I like the method, I need my husband's consent, as he has to agree to abstain or use the condom during the fertile period*," explained one volunteer.

Conclusions and Recommendations

According to respondents, introduction of the SDM into their communities has been successful, and they consider the SDM an attractive option for preventing pregnancy. Male SDM users increased their understanding of their wife's menstrual cycle and have become more active in family planning. User comments suggest that men's participation was mostly limited to reminding their wives to track the fertile days and abstaining or using a condom, while women maintained the calendar and informed their husbands of their fertile period.

Users and volunteers recommended improved efforts to raise awareness of the SDM. They also suggested including other stakeholders in the dissemination process. Some users suggested that the method be made available at Anganwadi centers, where individuals could more obtain it more easily. Respondents recommended offering the SDM through both male and female providers. Lastly, volunteers recommended the SDM be incorporated into other reproductive health programs.

D. Effect of SDM Integration on Family Planning Knowledge and Practices: Community Census and Survey

A community census was conducted in study areas to measure changes in family planning knowledge, attitudes and practices. CARE volunteers interviewed all women between the ages of 15 and 49 using a simple census form. Data collected on family planning use was compared with the results of a census taken before SDM integration began, as part of a previous CARE project. However, the earlier census did not include information on any other indicator of interest to the project, so the only data available for comparison is contraceptive prevalence.

Prior to SDM integration, CARE hired the consultant agency TNS MODE to conduct a survey of the periodic abstinence and condom users identified in the household census. The purpose of this survey was to determine the number and characteristics of potential SDM users, and to provide information to assess changes in correct use of these methods after SDM introduction. An endline survey, also conducted by TNS MODE, was conducted to assess changes in method use, explore awareness and acceptance of the SDM and gather information from men, who were not included in the baseline survey. The endline survey was conducted among eligible women between 14 and 49 years and their husbands who were periodic abstinence users, condom users and non-users.

In the endline survey, 1000 respondents consisting of 499 married women and 501 married men between 15 and 49 years were interviewed, while 1009 women (15-49 years) were interviewed in the baseline survey. The baseline survey covered only women, while the endline survey also included men. Male and female respondents were selected from separate households.

The results of the baseline and end line surveys have been documented in a separate report.

Table 14: Baseline and Endline Survey

Target group category	Baseline Survey	Endline Survey	Endline Survey	
			Women	Men
PA users	248	52	25	27
Condom users	126	284	141	143
Non users	635	664	333	331
Total number	**1009**	**1000**	**499**	**501**

D.1. Census Results

The census results provide information on the socio-demographic characteristics of residents of the study communities and measure the success of SDM introduction in terms of awareness and acceptance. The topics covered in the

census include family planning and fertility knowledge, current use of family planning methods and participation in project activities.

Respondent Profile

Table 15 presents information on the characteristics of the study population. The average age of women respondents was 32 years old, with most between the ages of twenty and twenty-four. Most of the women were illiterate (72%). Women reported an average of three children and the mean age of their youngest child was 5 years.

Table 15: Socio-demographic Characteristics of Respondents

Endline Census	%
Age group (years)	
15-19	4.1
20-24	16.6
25-29	22.4
30-34	19.0
35-39	16.9
40-44	10.0
45-49	11.0
Mean age	**31.6**
Education	
Illiterate	71.7
Primary	15.8
Secondary	10.0
Tech/University	2.5
Mean no. of living children	**3.2**
Average age of the youngest children (in years)	**4.7**
Total respondents	**6068**

Family Planning Knowledge and Use

The data presented in Table 16 show awareness of family planning as quite high among women; about eighty percent mentioned condoms, pills and the IUD. Awareness of the SDM was much lower; about half of women mentioned the method (54%).

Table 16: Family Planning Knowledge

Method	Endline Census %
Condom	83.9
Oral pills	79.9
Contraceptive injection	30.6
IUD/loop/copper-T	78.1
Female sterilization	74.2
Male sterilization	61.3
Safe period	19.8
Withdrawal	4.2
SDM	***54.1***
Unaware of any method	8.6
Total Respondents	**6068**

A comparison of the data from the baseline and endline census reveals that contraceptive prevalence increased from 24% in 1999 to 41% in 2003. Regarding the specific method used at endline, 14 percent were using condoms, 15 percent had chosen sterilization, 2 percent each were using Copper T and oral pills while 7 percent were using the SDM (Table 17)

Table 17: Family Planning Use

Family planning method use	Baseline Census %	Endline Census %
No method	24	59
Used any method	76	41
Methods Used*		
SDM	-	7
Withdrawal/Traditional	4	1
Condom	3	14
Pills	1	2
IUD	1	2
Male and female sterilization	15	15

Diffusion of SDM Information

The endline census also assessed awareness of the SDM; sources of SDM information, participation in IE&C activities; and correct knowledge of the fertile days.

Knowledge

After general questions about family planning knowledge and use were asked, volunteers asked women directly if they had heard of the SDM. About 60% of women responded affirmatively. When further asked what kind of information

they had received about the SDM, most mentioned that they had heard that the method did not require taking anything (67%). Other salient features of the method included 'use of a necklace "(60%), 'needs co-operation of the husband "(52%), and 'no ill effect on health' (50%). In order to assess fertility awareness, the respondents were asked which days a woman can become pregnant. About one-thirds of women answered correctly, indicating either the red beads or days 8 to 19 (Table 18).

Table 18: Awareness of the SDM

Endline census	%
Respondents who had heard about SDM	62.5
Total number of respondents	6068
What is the SDM?	
FP Method	78.2
Other	20.4
Could not specify	7.5
Reasons for using the necklace	
Use of necklace	59.9
Nothing to take	67.4
No disadvantage	60.2
Disadvantage	8.4
No ill effect on health	49.6
Need cooperation of husband	51.5
Can use without husband cooperation	3.4
Due to religious reasons	7.1
Others	2.2
No response	18.6
Total number of respondents	**3793**
Days when a women can get pregnant	
8-19 days of menses	22.1
Red bead days	37.5
Others	12.6
No response	45.7
Total number of respondents	**6068**

Sources of SDM Information

According to the census results, the community volunteer was the most important source of information about the SDM; 70% of women mentioned the volunteer as their first source of information. When asked about additional sources of information, roughly 40% of women mentioned group meetings and CARE extensionists (42%) and one quarter mentioned the anganwadi worker (25%). Other sources of information were mentioned much less frequently (Table 19).

Table 19: Sources of SDM information

Source of SDM information	Endline Census	
	Primary Source %	Additional Sources %
Community volunteer	70.3	79.0
Anganwadi worker	2.3	24.6
CARE extensionist	9.0	41.8
Auxiliary nurse midwife	0.8	11.6
Group meeting	3.7	44.1
Neighbor	2.7	17.9
Husband	1.2	11.2
Poster	0.1	14.5
Friends	1.1	6.9
User	2.2	3.2
Others	1.6	0.0
No answer	5.0	7.7
Total respondents who had heard about the SDM	**3793**	**3793**

Participation in SDM BCC activities

CARE organized village meetings and used banners to raise awareness of the SDM. Almost 60% of women reported that they had participated in a community meeting where the SDM was discussed; however only 28% stated that their husbands had also participated in a meeting. Among the other IEC activities, the banner emerged as the most effective, with about half of the women mentioning it as a source of SDM information (Table 20).

Table 20: Exposure to SDM Activities

Endline Census	%
Wife participated in village meeting	58.7
Husband participated in village meeting	27.8
Saw SDM banner	50.6
Total number of respondents	**3793**

D.2. Survey

This section will present the results of the survey of periodic abstinence users, condom users and non-users. For the purpose of this report, the results are not broken down by family planning status, although differences between men and women are presented. A full breakdown of the results is available in a separate report.

Socio-demographic Characteristics

The survey included questions on age, education and parity. The average age of female respondents was 29 years; men were slightly older (31 years). There was little difference in age between the women interviewed at baseline and endline. About three-fourths of women surveyed during the endline survey were illiterate, as compared to only one-third of men. No difference in educational level was observed between baseline and endline (Table 21).

Table 21: Percentage Distribution of Respondents by Age and Education

A: Women- Baseline (BL) and Endline (EL)

	Total	
	BL %	**EL %**
Age group (years)		
15-19	12.5	7.2
20-24	23.1	22.2
25-29	23.0	23.8
30-34	20.4	23.0
35-39	11.4	12.2
40-44	7.0	9.2
45-49	2.6	2.2
Average age	**28.3**	**29.2**
Education		
Illiterate	74.2	73.1
Literate	3.3	2.0
Primary	9.2	11.6
Secondary	12.7	12.6
Tech/University	0.6	0.6
Total number	**1009**	**499**

B. Men- Endline (EL)

Age group (years)	**%**
15-19	2.2
20-24	18.6
25-29	25.1
30-34	22.0
35-39	17.6
40-44	7.6
45-49	6.8
Average age	**30.7**
Education	
Illiterate	30.5
Literate	4.2
Primary	17.6
Secondary	43.9
Tech/University	3.8
Total number	**501**

The women interviewed at endline had an average of 2.6 children, with an equal number of sons and daughters. About half of the women interviewed expressed a desire for more children. The desire to have children within the next year decreased among both men and women. Among women, the percentage who desired a child in the next year decreased from 43% to 25%. A similar decrease was observed among men, from 58% to 45% (Table 22).

Table 22: Average number of living children and willingness to have more children

	Total	
	BL %	EL %
A. WOMEN		
Average no. of living children		
Total	3.2	2.6
Sons	1.6	1.3
Daughters	1.5	1.2
Willingness to have more children		
Yes	49.7	46.9
No	48.8	50.7
Unsure	1.6	2.4
Desire to have a child next year		
Yes	43.1	25.1
No	48.7	74.9
Unsure	8.2	0.0
Total number	**501**	**499**
A. MEN		
Average no. of living children		
Daughters		1.2
Sons		1.3
Total		2.6
Willingness to have more children		
Yes		56.1
No		40.1
Unsure		3.8
Desire to have a child next year		
Yes		45.1
No		54.9
Total respondents		**501**

D.3. FAMILY PLANNING KNOWLEDGE

The endline survey provided information on family planning attitudes and knowledge, along with sources of family planning information.

Knowledge

Virtually all women were aware of condoms and pills (99%). Most women were also aware of female sterilization (97%), male sterilization (86%), and the IUD (71%). Knowledge regarding SDM was fairly high (64%), while knowledge of the injectable (30%) was much lower (Table 23). Men on the other hand, were less knowledgeable about family planning. Although virtually all men had heard of condoms and pills, fewer were aware of female sterilization. About two fifths had heard of the IUD and the SDM.

Source of information

Most respondents received family planning information through interpersonal communication rather than from print materials or media. Many received information from their partner, friends or relatives (78% women and 67% men), while CARE field workers and volunteers were also important sources of information (73% vs. 47%). More than half of women also cited government providers, such as the auxiliary nurse midwife and anganwadi worker, as sources of family planning information. With regards to medical practitioners, the public

Table 23: Family Planning Knowledge

Method* (*Multiple response)	Endline Survey	
	Women %	Men %
Condom	99.2	99.8
Oral pills	99.2	95.2
Contraceptive injection	29.7	9.6
Vaginal/ tablets	1.0	0.4
IUD/loop/copper-	70.5	38.3
Female sterilization	96.8	88.4
Male sterilization	86.4	86.0
Avoiding sex on certain days	21.6	7.4
Withdrawal	5.0	0.4
SDM	63.5	38.1
LAM	0.8	0.2
% who had knowledge of at least 1 FP method	100	99.8
Total respondents	**499**	**501**

health sector was cited more frequently than private medical practitioners (1% women and 5 % men). More men than women mentioned that they received family planning information via radio, television and print media (Table 24).

Diffusion of SDM Information

According to the survey results, awareness of the SDM in study communities was relatively high among women, less do among men. SDM information spread primarily though the efforts of CARE volunteers and fieldworkers, rather informally through community networks. This section presents information on SDM knowledge and attitudes, participation in SDM activities, and spread of information through informal networks.

Table 24: Sources of Family Planning Knowledge

Sources* (*Multiple Response)	Endline Survey	
	Women %	Men %
Print media (newspapers/ books/ magazines)	2.8	15.2
Posters/ Pamphlets/ hoardings /banners	5.0	24.0
Radio	24.8	44.3
Television	14.8	19.0
Public/ Govt. health providers	14.6	11.8
Private medical practitioners	1.2	4.8
CARE workers/animators/volunteers	72.9	46.7
ANM/AWW	58.7	37.1
Dai	1.6	0.8
Spouse/ friends /relatives	78.2	66.5
Others cinema, family playing clinics, chemist NGO etc.	2.4	3.8
Don't remember	0.0	0.4
Total respondents	**499**	**501**

SDM Knowledge

About 65 percent of the women and 40% of men interviewed in the endline survey had heard of the SDM. Respondents who had heard of the SDM were asked what they knew about it. The most common response was that it involves use of a necklace. Women also mentioned that '"it is effective", ''there is no need to take anything" and "it is a partner method (Table 25).

Table 25: Knowledge of SDM

What respondents know about the SDM	Endline Survey	
	Women %	Men %
Use necklace/clock	63.7	37.9
Don't have to take anything	13.4	6.8
No side effects/ no ill effects on health	13.0	1.2
Partner method	12.0	4.0
Effective	19.6	6.6
Not effective	1.8	0.8
Only for couples with regular cycles	12.0	3.4
No need of husband's cooperation	0.0.	0.0
Good from religious point of view	0.0	0.0
Not heard at all	35.5	60.1
Total respondents	**499**	**501**

SDM Attitudes

Men and women who had heard of the SDM were asked to give their own opinion of the method. About two fifths of both women and men could not articulate any specific opinion. Among those who did express an opinion, most stated that the method is 'good for spacing' (36% women and 12% men) and 'convenient /easy' (32% women and 12% men). Overall, attitudes towards the SDM were positive and women were better able to articulate an opinion of the method than were men (Table 26).

Exposure to BCC Activities

Questions were included in the survey to assess the relative impact of IE&C activities, specifically the SDM banner and village meetings. About one fourth of the women interviewed and less than one fifth of the men mentioned that they had seen the SDM banner.

Table 26: Opinion of respondents about SDM

Opinion on the SDM	Endline survey	
	Women %	Men %
Good for spacing	35.5	12.2
Convenient/ easy	32.1	12.0
Natural method	8.4	6.6
Economical	19.6	10.0
Not user dependent	11.4	2.8
Risky method	6.4	2.8
No side effect	9.5	7.4
Others	0.2	2.8
Have no opinion	40.9	68.5
Total respondents who had heard of SDM	**499**	**501**

A little less than half of the women (44%) reported that they had attended a meeting on the SDM. A smaller percentage of men, only 18%, however, reported that they had attended a meeting on the SDM.

Table 27: Exposure to BCC Activities

How clients learned about the SDM	End line Survey	
	Women %	Men %
Seen SDM banner	25.5	17.2
Attended SDM meeting	44.1	18.0
Total respondents	**499**	**501**
Person who conducted the meeting		
Animator/ volunteer	86.4	75.6
Care worker	22.7	20.0
AWW	19.1	12.2
Others	1.9	1.1
Total respondents who attended any meeting	**220**	**90**

Informal Diffusion of SDM Information

The survey included questions to assess whether SDM information diffused throughout the community through informal discussions. Therefore, men and women were asked whether they had discussed the SDM with anyone during the past year. Most respondents had not discussed the SDM, although women were twice as likely to have discussed the method as men (32% vs. 16% respectively). The women discussed the SDM with their husbands, neighbors/friends, and sister/sister-in-law. Men mostly discussed the method with their wives and neighbors (68% and 84%) (Table 28).

Table 28: Informal Discussion of the SDM

Discussed SDM with	End line Survey	
	Women	Men
Not heard/ discussed	67.9	84.2
Wife/Husband	18.0	9.8
Mother/mother-in-law	0.4	0.0
Father/Father-in-law	0.8	0.0
Sister/Sister in law	9.4	1.2
Brother/brother-in-law	0.0	0.2
Neighbors/ friend	11.6	7.0
Others (ANM/AWW/Animator)	3.6	2.2
Total respondents	**499**	**501**

Opinion of those with whom SDM was discussed:

Respondents reported that most of the individuals with whom they had discussed SDM held favorable opinions of the method, characterizing it as, 'convenient', "does not require taking anything", and "good for identifying the fertile days".

However, one third of the women and ten percent of the men reported that their friends and relatives advised them not to use the SDM because it is a "risky" method (Table 29).

Table 29: Opinions on the SDM

Opinions about the SDM	Women	Men
Opinion of those with whom discussed		
Don't have to take anything	30.0	21.5
Convenient method	50.6	70.9
Risky method	3.1	10.1
Discourage the use of SDM	30.6	10.1
Good for identifying fertile days	28.8	12.7
Total respondents who discussed SDM with anyone	**160**	**79**

D.4. FERTILITY AWARENESS

The survey sought to measure changes in basic fertility awareness among community members as a result of SDM integration. SDM users were not included in the survey, so these results reflect a general increase in knowledge as a result of CARE's efforts to increase fertility awareness in study communities beyond SDM users.

Knowledge of the fertile days:

Correct knowledge of the fertile days among periodic abstinence users was non-existent at the time of the baseline survey. In comparison, the results of the endline survey show a remarkable increase in correct knowledge of the fertile days. At endline, 91 percent of women were able to correctly identify the fertile days of the menstrual cycle (days 8-19). Among men, 74% of periodic abstinence users had correct knowledge of the fertile days (Table 30).

Table 30: Fertility awareness among periodic abstinence users

Periodic abstinence users	Baseline	End line	
	Women	Women	Men
Fertile days			
Correct	0.0	40.9	63.0
Incorrect	100.0	59.1	37.0
Between 8 and 19 days of menstrual cycle			
Correct	0.0	90.9	74.1
Incorrect	100.0	9.1	25.9
First day of the menstrual cycle			
Correct	96.6	100.0	81.5
Incorrect	3.4	0.0	18.5
Determination of menstrual cycle length			
Correct	66.5	94.0	--
Incorrect	33.5	6.0	--
Total periodic abstinence users	**238**	**22**	**27**

Condom Use

Because many couples use the SDM in conjunction with condoms, men and women were asked to explain how to use a condom and describe their pattern and frequency of condom use. The results show serious deficits in knowledge and correct condom use.

Knowledge:

Condom users were asked to state in order the correct steps in condom use. The correct steps were: removing condom from package; unrolling condom slightly, placing condom on the tip of the erect penis; hold condom at base of penis while withdrawing penis; withdrawing while still erect; removing condom from penis and 'tying it and disposing. Respondents who mentioned all the steps in this sequence were considered to have correct knowledge of condom use. Only 28 percent of women and 4 percent of men correctly explained the steps of condom use. There was little increase in women's knowledge of condom use from baseline to endline (Table 31). Men were not interviewed at baseline.

Table 31: Knowledge of Condom Use

Condom users	Baseline	End line	
	Women	Women	Men
Knowledge about how to use condom			
Correct	26.2	28.4	4.2
Incorrect	73.8	71.6	95.8
Total condom users	**126**	**141**	**143**

Frequency of condom use:

The results suggest that condom use is inconsistent. Men who reported condom use were asked how often they had used a condom during the past three months. About 70% of men responded that they had not used a condom in the past three months, 14% reported that they sometimes used condoms and 16 percent reported that that they usually used condoms (Table 32). None of the men who reported recent condom use stated that they used a condom every time they had sex.

Table 32: Frequency of condom use

	Men
Used condom during sexual intercourse in the past three months	
Every time	0.0
Mostly	15.8
Sometimes	13.6
Occasionally	1.2
Never	69.5
Total respondents	**501**

Family Planning Intentions

CARE attempted to explore why unmet persisted in study communities by asking non-family planning users (333 women and 331 men) why they were not using any method and whether they intended to use a method in the future.

Reasons for non-use:

The most frequently mentioned reasons for not using family planning were: desire to conceive (31% women and 57% men) and postpartum amenorrhea (28% women and 11% men). Other reasons mentioned were difficulty in achieving pregnancy (4.2% women and 1.2% men), ill health (3.6% women and 10.6% men), side effects (2.7% women and 2.1% men) and spousal opposition (Table 33).

Table 33: Reasons for not currently using any family planning method

Reasons	End line Survey	
	Women	**Men**
Desire pregnancy	30.9	56.5
Postpartum amenorrhea	27.9	10.6
Lack of knowledge	0.0	1.2
Against religion	0.6	0.6
Opposed to family planning (self/spouse/family)	3.9	2.7
Dislike existing methods/fear sterilization	1.8	3.6
Side effects	2.7	2.1
Cost	0.6	0.9
Health does not permit	3.6	10.6
Difficulty obtaining method	0.6	2.4
Difficult to become pregnant	4.2	1.2
Others	23.1	7.5
Total current non-users	**333**	**331**

Intention to use the SDM in the future:

About one fifth of men and women who were not currently using a method stated that they intended to use the SDM in the future. Among those not planning to use the SDM, 44 percent of women and 72 percent of men could not specify any particular reason. Among those who did mention a specific reason, the most frequently cited reason was dislike of the method or difficulty in compliance.

Table 34: Intention for using SDM in future

	End line survey	
	Women	**Men**
Intention to use SDM in future	21.5	19.8
Total respondents who discussed future use	**391**	**394**
Reasons for not using SDM		
Irregular cycles	2.9	0.9
Dislike the method/non-compliance (Self)	27.7	12.0
Dislike the method or non-compliance (spouse)	10.7	8.9
Does not think that the method is effective	13.7	3.5
Others	3.3	3.5
Don't know	44.0	71.5
Total respondents who do not consider future use of SDM	**307**	**316**
Planning to talk with provider about SDM in the next six months	12.4	17.2
Planning to use SDM in the next six month	9.8	9.4
Total respondents	**499**	**501**

VII. CONCLUSIONS AND RECOMMENDATIONS

Introducing the Standard Days Method into family planning programs is a promising strategy for addressing unmet need in rural India. This study found that there is demand for the method among couples who have never before used family planning and that it can be provided effectively by low-literacy community health workers in rural settings. Most couples could identify and manage their fertile days correctly; and users were very satisfied with the method. This section addresses the primary research questions of this study.

Service Delivery Lessons

Is SDM integration into community health programs feasible? Can the SDM be provided by male and female community volunteers? Does counseling men as well as women result in a greater number of SDM users than does counseling women only? Which strategy results in more effective use of the method?

The community volunteers provided the method to almost 500 couples in the 48 study villages over the period of about a year. CARE field workers provided initial and refresher training to volunteers, and ongoing mentoring, especially during the initial months of service delivery. The volunteers were successful in raising awareness of the availability of a new family planning option through community

meetings and home visits; 64% of women and 38% of men had heard of the SDM, according to endline survey results. These are impressive results, given that the SDM had not been integrated into broader family planning initiatives conducted by the government in Sitapur and that this was the first time community members had ever heard of this method.

Both female and male volunteers provided the SDM in their villages. All women were counseled by female volunteers. In the block where male volunteers were trained, 40% of men received counseling from the female volunteer and 40% from the male volunteer. In the block without male volunteers, most men learned about the method from their wives. Results suggest that training male volunteers increased method acceptance and correct use and continuation. Further, in the male involvement block, men had a better understanding of the method and couple cooperation was more evident.

User Experiences and Opinions

How do men and women perceive and use the SDM? What are continuation rates? What are the reasons for method discontinuation in this setting?

Couples chose the method because it was affordable, there was no need to take or use anything; and it has no affect on a women's health. Almost all of the couples using the method found it simple to learn and use; likewise, the majority had accurate knowledge of how to use the method and used it correctly. At the first follow-up interview, almost all women had the ring on the correct bead and reported that they had avoided unprotected sex on the fertile days of their previous cycle. Virtually all women reported that they moved the ring daily. Despite initial concerns about the feasibility of calendar use among this rural population, most women reported that they found it useful to mark the first day of menstruation on the calendar. However, some women relied on their husbands or family members to mark the calendar for them. Most couples practiced abstinence during the fertile days, although one-third used the condom as an alternate method. Users were highly satisfied with the method; 90% of women and 70% of men would recommend the method to others and almost all women who completed 12 cycles of use planned to continue using the method.

Interviewers asked men and women if using the Standard Days Method had influenced their relationship. The majority responded by saying that they felt more certain of the fertile days. This is a salient point for respondents because most had previously been abstaining or using condoms on the days they identified as fertile; however none had correct information or specific strategies for identifying those days. Both men and women reported that using the Standard Days Method had increased communication and affection in their relationship; although men were more likely to mention this than women.

Women who reported using the Standard Days Method correctly experienced few pregnancies (3.5%). Over a period of twelve months, 14% of women discontinued use of the method for personal reasons and 18% discontinued

because they had cycles outside the 26-32 day range recommended for the method.

Community Effects

How does incorporation of the SDM/FA influence use of other methods? Does information about the SDM/FA spread throughout the community? How accurate is this information? Do couples use the SDM without receiving instruction from a provider?

Study findings suggest that SDM introduction may increase prevalence and does not lead to significant changes in method mix. We compared the results of a household census conducted one year after SDM introduction with the results of a census conducted one year prior to introduction. Overall contraceptive prevalence had increased, use of all methods had gone up, and 7% of the women interviewed were using the SDM. Further, results suggest that introducing the Standard Days Method can improve family planning use. Most the new SDM users had never before used a family planning method or had been inconsistent condom users prior to adopting the method. Less than three percent of users had been doing something to prevent pregnancy in the two months prior to adopting the SDM.

In addition, results from the household surveys show that correct knowledge of the fertile days increased significantly among both men and women. Information about the SDM spread primarily through CARE volunteers and field workers, rather than through informal channels, such as friends and relatives. No users were identified who had adopted the SDM without receiving counseling from a trained provider.

Recommendations

Well-trained providers are key to successful integration of the SDM; thus, capacity building should be emphasized. Behavior change communication efforts should be increased to create awareness and legitimization for this new method. A consistent supply of high quality CycleBeads and condoms combined with good condom instruction will facilitate acceptance and correct use of the Standard Days Method. Participation of men as educators, providers and users of the method should be encouraged. The Standard Days Method will be more acceptable if integrated into the existing government family welfare program, and other stakeholders should be included in the dissemination process. Some users suggested that the method be made available at Anganwadi centers, where individuals could more easily obtain it.