

Using Standard Days Method® via Text Messaging: CycleTel™ Automated Testing

Report on Results from Delhi-NCR, India

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The Institute for Reproductive Health (IRH) is part of the Georgetown University Medical Center, an internationally recognized academic medical center with a three-part mission of research, teaching and patient care. IRH is a leading technical resource and learning center committed to developing and increasing the availability of effective, easy-to-use, fertility awareness-based methods (FAM) of family planning.

IRH was awarded the 5-year Fertility Awareness-Based Methods (FAM) Project by the United States Agency for International Development (USAID) in September 2007. This 5-year project aims to increase access and use of FAM within a broad range of service delivery programs using systems-oriented scaling up approaches.

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Acronyms

DNDR	Do Not Disturb Registry
EC	Emergency Contraception
FAM	Fertility Awareness-based Methods
GOI	Government of India
IRH	Institute for Reproductive Health, Georgetown University
ISHP	Indian Society of Healthcare Professionals
mHealth	Mobile Health
SMS	Short Messaging Service
SDM	Standard Days Method®
USAID	United States Agency for International Development

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Executive Summary

Georgetown University's Institute for Reproductive Health (IRH) developed CycleTel™, an mobile health (mHealth) innovation that uses Short Messaging Service (SMS) to enable couples to use the Standard Days Method®(SDM) using their mobile phones. CycleTel represents the first service to deliver a family planning method to individuals and couples via mobile phones. To develop the service, IRH followed a rigorous, step-wise product development process, including proof-of-concept testing, technology development, and automated testing. This report presents the research design and results from the automated testing phase.

Building on earlier CycleTel research, the purpose of the automated testing phase was to: 1) ensure that the automated technology functioned properly with a higher volume of users; 2) evaluate user experiences with the service and integrate user feedback before scaling the technology; 3) test the feasibility of integrating the service with a fully-functioning family planning helpline; and 4) develop processes to handle real-time data analysis and system monitoring. The results of the automated testing were intended to inform the next stage of the product development cycle, which include business planning and market validation, and ultimately launching the service in India.

This study was conducted in the greater New Delhi area, referred to as Delhi-NCR, in India. India was selected as a location for the study as SDM has been shown to be an attractive method, and studies have shown that Indians can use it correctly. IRH is targeting urban areas for CycleTel since that is where mobile phone use is most prevalent.

The study recruited 715 women to use CycleTel as a family planning method for two menstrual cycles of use. All participants were screened and interviewed at admission, and also interviewed again at exit. 653 women completed the exit interview. Additionally, a sample of women (n=197) was interviewed after one menstrual cycle of use to gather initial feedback. The husbands of participants were also invited to participate in an exit interview, and yielded 131 interviews that captured husbands' perspectives about the service.

Similar to the proof-of-concept results, over 95% of users interviewed at exit (n=653) reported that they received messages at an appropriate time and in an appropriate quantity, indicating that the technology worked as designed. When asked what they liked most about CycleTel, more than 80% of users reported appreciating its ease-of-use and the timely reminders, which will help further define CycleTel's value proposition for potential consumers. About 230 calls were placed to the helpline by users to report issues with sending, receiving, and understanding messages. The majority of calls were received during user registration, and tapered off to less than 7 calls per week towards the end of the testing. The helpline counselors were able to resolve most queries with support from data provided through technology backend.

The automated testing afforded IRH the opportunity to identify technology issues and improve the daily functioning of the service, as well as to add or change features based on feedback from users and project administrators. For example, the CycleTel database now generates a user status report which is used for monitoring the service.

Overall, the Automated Testing was successful in (1) validating that the technology worked as expected, (2) integrating a helpline into the service, and (3) determining processes for monitoring the service.

1. Introduction

Georgetown University's Institute for Reproductive Health (IRH) developed a mobile health (mHealth) concept for facilitating use of the Standard Days Method® (SDM, described below) of family planning via Short Messaging Service (SMS, or text messaging) on mobile phones. The innovation is known as CycleTel™. After proof-of-concept research validated the concept and technology design, IRH developed software that automates the CycleTel service. This research study represents the third stage of the innovation's development—automated testing. The research was conducted in the Delhi-NCR region in India in collaboration with AC-Nielsen, an Indian-based research organization.

2. Objectives

The purpose of the automated testing phase was to: 1) ensure that the automated technology functioned properly with a higher volume of users; 2) evaluate user experiences with the service and integrate user feedback before scaling the technology; 3) test the feasibility of integrating the service with a fully-functioning family planning call center; and 4) develop processes to handle real-time data analysis and system monitoring. The results of the automated testing will inform the next stage of the product development cycle, which include business planning and market validation, and ultimately launching the service in India.

3. Background

Significant numbers of married women worldwide want to avoid pregnancy yet are not using any method, because they cannot access family planning services and/or commodities, do not like available options, or are opposed to particular methods on cultural or religious grounds. More than 200 million women in developing countries have an unmet need for family planning. United Nations estimates show this figure growing by 40% by 2050 as young people reach their reproductive years. Over half of these women live on the Indian sub-continent and parts of Southeast Asia (Speidel et al. 2009). In addition, millions of couples, especially young people who represent the largest segment of the population in need of methods to delay and space pregnancies, rely on incorrect information about their fertile days and fail to protect themselves from unplanned pregnancy. Widespread dissemination of accurate information about the fertile window of the woman's menstrual cycle would contribute to efforts to address this situation.

1. The Standard Days Method

SDM is a fertility awareness-based family planning method developed by IRH with support from the U.S. Agency for International Development (USAID). It has been shown to be more than 95% effective in preventing pregnancy with correct use, and 88% effective with typical use (Arevalo et al. 2002). It is recognized as an evidence-based practice by the World Health Organization and is currently offered in over 30 countries worldwide. SDM identifies a fixed fertile window in the

menstrual cycle when pregnancy is most likely. To prevent pregnancy, users avoid unprotected sex on days 8-19 of the woman's menstrual cycle. It is appropriate for women with cycles between 26 and 32 days long (approximately 80% of cycles).

SDM is an important addition to the method mix that helps many couples prevent unplanned pregnancy (USAID 2009). Given its ease of use and lack of side effects, SDM may appeal in particular to couples who currently are not using any method, are relying on the rhythm method or withdrawal, or are dissatisfied with their current method. IRH has been studying the introduction of SDM into family planning programs around the world since 2001. Results have indicated that SDM introduction has a positive effect on family planning programs in that it attracts new family planning users, improves access to family planning methods, improves condom counseling, empowers women, and involves men (Gribble et al. 2008). In addition, since SDM is a knowledge-based method, it does not need to be provided by a clinician. Rather, it can be offered at community level or directly to consumers.

SDM is usually used with CycleBeads®, a color-coded string of beads that serves as a visual tool to help the woman and couple to track her fertile days. However, market segmentation research reveals that certain segments of the population of reproductive age, could be interested in using other tools to foster use of SDM. One possible mechanism for facilitating use of the method could be by reaching women on their mobile phones with messages that support SDM use. IRH has explored this concept in depth, and as a result, developed CycleTel™, an SMS-based mobile phone application that facilitates SDM use. CycleTel was developed as part of IRH's vision of having SDM available to more women around the world through direct-to-consumer approaches.

2. Use of Mobile Phones in Health Interventions

Mobile phones are the fastest-growing technology in the developing world, with approximately 70% of more than 3 billion mobile phone subscribers living in developing countries at the time that this research was conducted. The vast majority of subscribers are women and men of reproductive age (15-49). SMS technology has been used to provide health-related information directly to users (e.g., One World's Mobile4Good in Kenya) and to serve as reminders to people needing to take medicines at regular intervals (e.g., SIMpill® Medication Adherence System in South Africa and Botswana). These and other health related SMS interventions have had considerable success in reaching and connecting people with information they need.

Limited resources and fragile health systems in many developing countries are not adequate to meet the needs of people of reproductive age for family planning and related reproductive health information. There is significant potential to help them avoid unplanned pregnancy and improve their reproductive health by providing them with timely, actionable, personalized information through SMS.

No current SMS application enables family planning method use. SDM is uniquely appropriate for this intervention because it is an information-based method, providing women (and their partners) with information on their fertile days, alerting them as to when to avoid unprotected sex in order to prevent pregnancy.

3. Why India

India represents an ideal location for offering CycleTel. First, there is a significant need for family planning. The family planning program in India is dominated by sterilization. Access to spacing methods such as pills, condoms, and IUDs is low. In urban Uttar Pradesh, one of the proposed locations for testing, the contraceptive prevalence rate is 56%, with 19% of women opting for sterilization, 14% opting for traditional methods, and 17% for condoms (IIPS and Macro International 2007). Recently, the Government of India (GOI) has put greater emphasis on “spacing” methods of family planning - methods that allow women to delay a first birth and space subsequent births - recognizing that early and closely-spaced childbearing have negative effects on the health of women and children and impede social and economic development.

SDM has been offered in India since 2002. In 2003, pilot studies with two organizations in Delhi and Uttar Pradesh tested the feasibility of introducing SDM in India. Results showed that there was a demand for SDM, there was a high satisfaction level with the method, that SDM appealed to women because it has no side effects or health risks, and that the method could be easily taught by providers, including community level workers, and correctly used by women (Gribble et al. 2008). Subsequently, The Government of Jharkhand tested the integration of SDM into the reproductive and child health services provided by the Ministry of Health and Family Welfare (MOH/FW) and the Department of Social Welfare (Integrated Child Development Services program). The results of this study were positive, demonstrating it was feasible to offer SDM in the public sector by all levels of providers and that it was appealing to women who wished to space births, particularly women who had never used a family planning method (Institute for Reproductive Health 2008). As a result of the Jharkhand integration study, the Government of Jharkhand expressed its desire to scale up SDM services throughout the state in 2007 and requested technical assistance from IRH-India in order to accomplish this. In addition, IRH-India has worked with a variety of other local partners in Jharkhand, Rajasthan, Orissa, and Uttar Pradesh over the past several years to integrate SDM and LAM into family planning programs. As well, various policy successes were achieved during this time, including SDM being named in the Government of India’s Reproductive and Child Health Phase II program implementation plan as methods that can expand choice.

Moreover, India has the second fastest growing telecom market in the world, with 360 million subscribers in 2009, according to the *Hindustan Times* (Singh 2009). SMS reach is increasing rapidly among potential beneficiaries. This, combined with evidence from SDM experience in India, suggests that offering SDM and related reproductive health information through SMS would be a significant, scalable, and sustainable approach to address unmet need for family planning.

4. Completed Proof of Concept – Phase 1

IRH has completed three phases of proof-of-concept testing for CycleTel in India: 1) focus group discussions; 2) cognitive interviews; and 3) manual testing using FrontlineSMS. The focus group discussions found significant interest among women for CycleTel, and that it would be feasible to offer SDM with CycleTel given the way women currently use cell phones. Appropriate messaging was also determined. The cognitive interviews allowed IRH to test the proposed CycleTel messages and gain a deeper understanding of women's perceptions of messages so as to determine if the messages were appropriate to support SDM use.

Manual testing using FrontlineSMS (an open source, free software) was the third phase of the proof-of-concept testing. It allowed IRH to test if women and couples were able to use CycleTel correctly over time. In this phase, IRH recruited 116 women(26 in Lucknow, 90 in New Delhi) to use CycleTel on their mobile phones for two menstrual cycles. An IRH staff person manually sent the appropriate SMS messages to each participant using FrontlineSMS software. Participants were interviewed after the first cycle to ensure that they understood the messages and were using the method correctly. They were interviewed again after the second cycle, to explore their satisfaction with the method and issues related to method use.

Lessons learned were extremely valuable and ranged from message content and frequency, to mobile phone usage trends, as well as identifying the target audience and their potential interest. Of women who manually tested CycleTel on their mobile phones, all wanted to continue using the service, reported improved communication with their partners in regards to family planning, and would recommend the service to friends. The research showed that a potential demand exists among young mobile phone users in urban India, and that women/couples would be willing-to-pay up to 50 rupees (USD\$1.10) per month to use the service, which would support recovering program costs.

5. Technology Development – Stage 2

IRH, working in partnership with global technology consultant, ThoughtWorks, Inc., built CycleTel to function on an automated technology platform that:

- Communicates with a designated phone number and utilizes keywords;
- Allows users to opt into or out of the service;
- Screens each new user with a series of messages to determine if the service is appropriate for them;
- Tailors messages based on when each user begins using the service, i.e., when she begins her period;
- Sends messages according to user's preferences (e.g., on all fertile days or select fertile days); and
- Is designed to operate at scale, across multiple countries, carriers and languages, for continual, long-term use (until the user chooses to discontinue use).

Given the critical importance that the service—as a family planning method—functions correctly, the platform operates in an environment that includes or is capable of:

- Real-time, privacy-protected data collection that is stored in a central database, accessible online;
- Around-the-clock application management and network monitoring; and
- A robust and secure hosting infrastructure.

The platform is also built to automatically track indicators to support monitoring and evaluating efforts. Example indicators include: the number of eligible/ineligible users; the number of actual users; cycle length variation over time; and the number of invalid messages sent by users that may indicate issues with the wording of messages sent.

6. Description of the User Experience

To use CycleTel, a woman sends the SMS keyword ‘JOIN’ in English or Hindi to the designated CycleTel phone number. This activates the service to send the user a welcome message and three ‘YES’ or ‘NO’ screening questions according to the criteria for SDM use to help determine if the woman is eligible to use SDM. If she does not respond to one of the screening questions, the service will send her a reminder message in a few days. If she is eligible to use SDM, CycleTel then asks her to send in the start date of her most recent period. Once she does this, CycleTel then sends personalized messages about her fertility status, which are called “unsafe day alerts”, in addition to messages that support correct use of SDM. CycleTel depends on sustained interaction between the user and technology for as long as the woman chooses to use the service. To continue using CycleTel, a woman needs to send in the date when her next period starts. Figure 1 shows the steps in the user journey. Users are also sent the phone number to a call center helpline, should they have any questions or issues with using the service.

4. Study Design

The objectives of this study were to determine if the CycleTel automated technology platform functioned as expected with a larger volume of users, and if the service is acceptable and feasible for the target audience (women of reproductive age) to use. Similar to the manual testing phase during proof-of-concept testing, the study sought to understand the way in which women and their husbands interact with and use CycleTel, including if they use it correctly, are able to understand and respond to the prompts, are satisfied with the frequency and timing of the

Figure 1: Snapshot of the User Journey



messages, if it affects the relationship with their partner, and how to reach potential users. The study also tested integrating the service with a call center, operated by the Indian Society of Healthcare Professionals (ISHP), in order to document the training and support needs for the call center counselors and understand if the call center functions appropriately.

IRH hired a research organization, AC-Nielson, to recruit women into the study and conduct interviews. The research organization recruited 715 women to participate in the study via household visits in the Delhi-NCR region in India. Researchers were trained to explain the study to potential participants, screen participants, and obtain informed consent from participants who agreed to be in the study. To participate in the study, a woman was asked to use CycleTel as a family planning method for two menstrual cycles, and to participate in interviews about the experience when requested. The study was structured according to the following elements:

1. **Screening and Informed Consent:** Recruiters invited women to participate in the study, and if they were interested, the recruiters asked women a series of screening questions to determine their eligibility to participate. The criteria for participation included that: 1) she and her husband should desire to avoid a pregnancy but are using either no method, a traditional method, or condoms inconsistently; 2) she must be a cell phone user who is in the habit of sending text messages in either English or Hindi; 3) married; and 4) between the ages of 18-49. Recruiters asked women to complete a short skills test to determine if a woman was comfortable sending and receiving text messages. If a woman was eligible and willing to participate in the study, she was then asked to read and sign an informed consent form.
2. **Admission Interview:** All participants completed an admission interview that covered questions about basic demographic information, family planning history, and insights about the participant's mobile phone use.
3. **Service Enrollment & Use:** The recruiters helped each participant sign up for CycleTel on her mobile phone by instructing her to send "JOIN" in English or Hindi to the designated CycleTel number. The recruiter was instructed to help women answer the SMS-based screening questions required to complete enrollment. Participants were expected to use CycleTel for two menstrual cycles.
4. **Client Follow-up Interview:** A random sample of the 715 study participants were interviewed via phone after one menstrual cycle of use to determine whether they were using the method correctly and identify any problems they may have had. Participants were invited to participate in these follow-up interviews via text messages and phone calls.
5. **Female Exit Interview:** When participants completed two menstrual cycles, they exited the study after completing an exit interview (either over the phone or in person) that asked

about correct use in addition to satisfaction, partner communication, and other study questions. See example research questions below.

6. **Male Exit Interview:** When a woman completed the exit interview, she was asked if it would be possible to also interview her husband. If she agreed, and if her husband was willing to participate, he was asked similar questions to those that women were asked in their exit interview, pertaining to method use and satisfaction, in addition to additional questions specific to male participants. Exit interviews with husbands were conducted via phone.

The software recorded each study participant's interactions with the system, including the first day of menstruation, the fertile and infertile days of her menstrual cycle and messages received by and sent to each participant. This record of data, collected in real-time, helped IRH staff and ThoughtWorks (the technology partner) monitor whether the technology was working properly throughout the duration of the study. Participants had the option of contacting a helpline at any time with any questions or problems, or if she needed assistance. All instances of contact with the helpline were documented by the helpline operators. IRH staff reviewed the logs continuously and provided counselors with guidance and refresher trainings when needed.

All participants received mobile phone airtime credit to cover any costs of sending and receiving text messages incurred for the purposes of using CycleTel.

Research Questions

All research forms for this study are included as Appendices 1-5. The types of the questions asked of participants includes the following:

1. Do women and their partners find using CycleTel feasible? That is, were they able to access their phone at the appropriate times each day in order to send and receive text messages?
2. Do women find that the text messages help them to know which days to avoid unprotected sex in order to prevent pregnancy?
3. Do women and their partners comply with the messages and use the method correctly? That is, do they avoid unprotected sex on the specified days and send a text message on the day they get their period?
4. Do women like learning about their fertile days from text messages?
5. How do women and their partners feel about avoiding unprotected sex on the fertile days?
6. Are women and their partners satisfied with the CycleTel as a family planning method?
7. Do women and their partners feel confident that using CycleTel will help them to prevent pregnancy?
8. Would women and their partners wish to continue using CycleTel after the study?
9. What are their preferences in terms of the frequency and content of messages telling them when they are fertile?

10. For women who had an out-of-range cycle, did they understand the message and do they intend to obtain another method?
11. How did women let their partners know which days they needed to avoid unprotected sex?
Did they send the messages they received to their partners? Did they show the messages they received to their partners?
12. Would they like to have the option of having their partner receive messages? (And would their partner like the option of receiving messages?)
13. Did they find the help line useful?
14. What are suggestions for improvement?
15. Would they be willing to pay for CycleTel? If so, how much?
16. What type of messages or incentives, if any, would be appropriate to encourage continued and correct use?

5. Results

Profile of Participants

715 women were admitted into the study, and they were between the ages of 19 to 36 years old, with the mean being 30.5 years of age. There were 145 women (20.3%) in the 24-27 age group, 244 women (34.1%) in the 28-31 age group, and 200 women (28%) ages 31-34, representing the three largest age groups. The below 24 group had 41 women (5.7%), and the 35 and above group had 85 women (11.9%).

The average years of marriage for the participants was 8.24 years. About 84% of women reported using a family planning method at the time of the study. The majority of participants had 1 or more children (96%), and had reached their fertility intentions (76.1%). About 18.3% reporting not being sure about wanting more children, while 5.6% of the participants intended to have more children.

Of the 715 participants, 28% were employed. The women were highly educated, with 81.6% earning a graduate level degree or higher. 18% of the participants completed some level of higher secondary education. The lowest education attainment was secondary school (completed by the age of 18 in India), and represented 0.4% of the study group.

Mobile Phone Use

During admission interviews, women were asked about their current mobile phone use. 42.5% of women reported using a smart phone with access to the Internet and multimedia services. In terms of applications and services used, the most popular service was "OVI music", which was mentioned 36 times. Facebook, Airtel Live, and Reliance World were also mentioned, but not by many. Participants heard about services and applications from their husbands, other family members, friends, and advertisements (ordered by popularity of response). Participants reported using over 8 different types of mobile phone carriers, with Airtel and Vodafone representing nearly 60% of the spread.

Findings from Client Follow-up (n=197)

197 women were interviewed after one menstrual cycle of CycleTel use.

Few women had issues sending or receiving messages. Of the 197 women interviewed, 7 women indicated that they had issues with sending or receiving messages. One woman reported that this was due to a network problem. Given the low percentage of participants who had issues sending or receiving messages, it can be concluded that the service was functioning well.

The helpline is an important service offering. 19 women (9.6%) contacted the helpline during the first menstrual cycle of use. The main reasons for contacting the helpline were to help understand a particular message, to learn about the method's effectiveness, to find out the "unsafe" and "safe" days, and to report a lost phone.

High message content comprehension. There were 4 participants who reported having issues understanding the messages from CycleTel, which is 2% of the group interviewed. It is not known whether these are the same women that called the helpline for assistance.

Extra service features were appreciated by the users. CycleTel is designed to send out informative messages, in addition to the "unsafe day" alerts, to help a woman use CycleTel correctly. For example, during a woman's first month of CycleTel use, she will receive a message about emergency contraception (EC). She is also told that she can message "INFO" at any time to receive more information about CycleTel as a family planning method. Once she sends INFO, she can learn about the method's efficacy and risks. Of the 197 women interviewed, 55% reported that the additional messages were very helpful, and the rest (45%) said that they were helpful. Only 9 of the women sent the keyword "INFO", 8 of whom indicated that the messages were very helpful.

There were 3 women who reported using EC, which indicates that the EC message included important information. However, only 25% of the women interviewed recalled receiving a message about EC, and most could not properly recall what the message said. These results indicate that the wording of the EC message may need to be revised.

Most participants reported using CycleTel correctly to prevent pregnancy. To use CycleTel as a family planning method, women need to abstain or use a condom on the days they receive unsafe day alerts (days 9-18 of each menstrual cycle). Over 75% of women reported using condoms on the unsafe days, 37 women said that they abstained during unsafe days, and 11 women said that they used another method of prevention, such as withdrawal. Therefore, of the 197 participants interviewed, about 5.6% (11 women) were not using the method as they were instructed.

Findings from the Female Exit Interviews (n=653)

Of the 715 participants who enrolled in the study, 653 women completed an exit interview. Participants were asked more in-depth questions in the exit interview than the follow-up

interview, although some of the questions about message content, frequency, correct use, and the helpline were repeated. The results for these questions are as follows:

- *The timing and frequency of messages are appropriate.* 96% of the participants who completed the exit interview said that they received messages at an appropriate time, and 97% reported that they received the right amount of messages.
- *Some women had issues sending or receiving messages.* Of the 653 women interviewed, 54 women (8.2%) indicated that they had issues with sending or receiving messages. This percentage is higher than what was reported during the follow-up interviews. Service administrators will have to monitor the service closely when it is available to a greater volume of users to ensure that messages are sent and received.
- *Most participants reported using CycleTel correctly to prevent pregnancy.* 31 respondents (4.7%) said that they had unprotected sex during their unsafe days, revealing that they did not use CycleTel correctly. This is an overall low percentage.
- *The helpline is an important service offering.* 153 women (23.4%) said that they contacted the helpline at some point during the time that they were in the study.

Opinion of CycleTel as a family planning method. The exit interview also asked questions about each participant's opinion of CycleTel as a family planning method, including what they liked least and most about the method, their level of confidence in the method being able to prevent pregnancy, and their level of satisfaction with CycleTel. Along these lines, participants were asked if they would recommend the service to friends, and if they would be interested in continuing to use the service. The results of this segment of the interview are as follows:

- As a family planning method, participants reported that they liked most that CycleTel has no side effects, does not affect health, and is easy to use. Women were able to site multiple answers when they responded to this question. Table 2 lists the features that women said they liked most about CycleTel, and how many women mentioned each feature. Participants were also asked how satisfied they were with CycleTel as a method to prevent pregnancy. Nearly 61% of respondents said they were very satisfied, whereas 33% said they were somewhat satisfied. Less than 7% of women said they were neither satisfied nor dissatisfied, not so satisfied, or not at all satisfied.

Table 2: What Participants Reported Liking Most about CycleTel as a Family Planning Method

FEATURE	FREQUENCY*
No side effects	577
Doesn't affect health	523
It is easy to use	476
It is effective	369
It is low-cost/free	352
Convenient	321
My husband opposes using another method	112
Religious/moral reasons	59
Others	41

* multiple responses

- Participants were also asked what they liked least about CycleTel as a family planning method, and the majority overwhelmingly reported “nothing” (see Table 3). Other answers included difficulty sending and receiving text messages, and the need to abstain or use condoms during the fertile days to prevent pregnancy. 40 women reported that they were concerned about getting pregnant. Further, when asked later in the interview how confident they were in CycleTel as a family planning method, 2% of women (13 participants) said that they were not so confident in the method. 59.3% (387 women) indicated that they were very confident in the method, whereas 38.7% (253 women) were somewhat confident.

Table 3: What Participants Reported Liking Least about CycleTel as a Family Planning Method

FEATURE	FREQUENCY*
Nothing	452
Difficult sending/receiving text messages	98
Need to abstain during fertile days	78
Need to use condoms on fertile days	76
Concern about getting pregnant	40
Others	50

* multiple responses

- Confirming their level of satisfaction and confidence in the method, 89.6% of respondents would recommend the service to a friend or family member, while 10.4% would not. However, only 47.3% of the women were interested in continuing to use the service after the study (refer to the Discussion section for more analysis on this finding).

Opinion of CycleTel as a mobile phone service. Additionally, the exit interview asked participants to think about what they liked or disliked about CycleTel as a mobile phone service, providing insights into the value that CycleTel offers to women when compared to other mHealth services and other family planning methods. Tables 4 and 5 depict the results. Timely reminders, privacy, and ease of use were the top reasons why participants liked CycleTel as a mobile phone service. Whereas, a large number of participants said there was nothing that they did not like about the service. However, some women did complain that it was difficult to send messages and that there were too many messages, which does not necessarily align with answers reported earlier in the interview (see beginning of the Female Exit Interview section).

Table 4: What Participants Reported Liking Most about CycleTel as a Mobile Phone Service

FEATURE	FREQUENCY*
Timely reminders	571
It maintains my privacy	519
Easy to use	514
Messages come when expected (reliable)	435
Right amount of messages	428
Accessible hotline	180
Ability to set message frequency for unsafe day alerts	60
Others	239

* multiple responses

Table 5: What Participants Reported Liking Least about CycleTel as a Mobile Phone Service

FEATURE	FREQUENCY*
Nothing	495
Difficult to send messages	113
Too many messages	89
Instructions were not clear	27
Messages were not clear	24
Too few messages	7
Others	38

* multiple responses

Willingness to pay. As CycleTel is a direct-to-consumer service, another dimension explored was willingness to pay. As mentioned, the proof-of-concept results revealed that women and men were willing to pay up to 50 rupees (USD\$1.10) per month to use the service. Participants of this study, however, had a different opinion—48.7% were not willing to pay to use the service, 30.8% would pay, and 20.5% were not sure. Average willingness to pay was 10.9 rupees per month. The participants who were willing to pay indicated that recharge (coupons or mobile credit) or a monthly deduction from the phone's credit would be the best way to charge for the service.

Influence on the couple's relationship. CycleTel is positioned as a method for couples, because a couple has to communicate and cooperate on the "unsafe days" to prevent pregnancy. The exit interview explored if CycleTel influenced the couple's relationship along the categories of communication, respect for each other, and improved sex life. About 37% of women said that they thought communication improved with their husband as a result of using CycleTel, while 61% said they saw no change, and 2% indicated that it made communication more difficult. Results for change in respect for each other were very similar—36.3% said respect improved, 3.4% said respect decreased, and 60.3% observed no change. CycleTel had a slightly bigger impact on intimacy, with 38.6% of the participants citing that the service improved sex life, 59.6% saying that there was no change, and 1.8% indicating that it changed for the worse.

Reasons for Exits from Study

Of the 715 women who entered the study, 653 completed the exit interview. The 62 women who did not complete the study did not successfully complete enrollment by answering the screening questions or sending in the start date of their period. Essentially, these women never started using the service and could not speak about their experiences and thus were not asked to participate in an exit interview.

Of the 653 women who completed the exit interview, only 202 women (30.9%) successfully completed 2 menstrual cycles of use. There were 411 women (62.9%) who became inactive users before the end of the study by not sending in a 2nd or 3rd period start dates. To note, 167 women became inactive users for not sending in their 2nd period start date, and 202 women became inactive for not sending in their 3rd period start date. Additionally, 31 women (4.7%) became ineligible to use the service during the study duration because their cycles were outside of the 26-32 day range, which is a realistic percentage given that CycleTel is not an appropriate family planning method for every woman. Lastly, 6 women (~1%) voluntarily sent STOP to the service. See Table 6 for the breakdown.

Table 6: Reasons for Exits from the Study

REASON	# OF PARTICIPANTS	PERCENT
Completed 2 menstrual cycles of use	202	30.9%
Became inactive (did not send 2nd or 3rd period start date)	411	62.9%
Became ineligible to use CycleTel (had long or short cycles)	31	4.7%
Sent STOP SMS to end service	6	~1%

Given the large percentage of women who became inactive users during the study, IRH asked participants for reasons why this happened during the exit interview. There were a variety of reasons, as listed in Table 7, which contributed to the number of inactive users. These reasons can be further organized into four general categories: (1) issues with technology functionality, (2) issues with study recruitment, (3) confusion related to a service disruption caused by a policy enacted by the Telecom Regulatory Authority of India, and (4) incorrect use of the service. Based on these findings, IRH was able to identify issues and make critical changes to the service in order to improve the experience for future users. IRH also realized the importance of having contingency plans in place to mitigate environmental risks, such as changes in telecom policy.

Table 7: Reasons for Becoming Inactive

Participant's Reason	Percentage	Explanation & Implications
I did not send my period start date on time.	39.1	<p><u>Explanation:</u> There were two main issues that contributed to this problem. First, some of the participants admitted to not being motivated to participate in the study, although they signed up in any event, which may have resulted in them not actively following directions and reminders from the service. Second, in-depth analysis revealed that there was a major technology flaw that created issues for any user who tried to sign up for CycleTel after her fertile window had passed for that cycle. In many of these cases, when the woman sent in her new period start date, she would trigger a “reset” functionality. The reset function allows a user to change her period start date within a few days of sending her last date. For these cases, however, the woman was trying to start her next cycle of use instead of reset her previous date.</p> <p><u>Implication:</u> IRH has de-activated the reset function and will rely on women calling the helpline if they made a mistake in the date that they entered.</p>
I was not interested in the study.	28.1	<p><u>Explanation:</u> This may have been caused by poor quality recruitment into the study by the research agency.</p> <p><u>Implication:</u> The study results may not be accurate if some of the participants were not interested in using CycleTel to begin with. No impact on future service operations.</p>
I was not sure how many times I had to send in my period start date to be part of the study.	14.4	<p><u>Explanation:</u> This may have been caused by poor quality recruitment into the study by the research agency. Recruiters were trained to instruct participants of the study requirements and also had a script to refer to. It is also possible that these participants did not follow the instructions well.</p> <p><u>Implication:</u> The study results may have been affected since some women did not use the service for a long enough time to provide their opinion of the user experience. This has no impact on future service operations.</p>
I was confused because I received CycleTel messages from different numbers (related to the “Do Not Disturb” registry), or I lost interest in the service because of this experience.	12.8	<p><u>Explanation:</u> When the study was in the middle of the recruitment phase, the Telecom Regulatory Authority of India enforced a new policy that any mobile phone user could sign a “Do Not Disturb Registry” (DNDR) to avoid receiving messages from commercial numbers. The CycleTel number is considered “commercial”, so any woman who signed the DNDR started to NOT receive CycleTel messages. To get around this issue, IRH contacted participants via SMS from a non-commercial mobile phone number to provide directions about how to receive CycleTel messages again. The flurry of SMS and directions caused confusion and impacted the user experience in a negative way.</p> <p><u>Implication:</u> IRH and its technology partners will need to investigate further how to minimize the impact of the DNDR policy for future CycleTel users.</p>

I took hormonal pills to delay my periods, and thus experienced a long cycle.	3.4	Explanation: To use CycleTel correctly, a woman must not take hormonal pills at any time because they have an effect on a woman's menstrual cycle length. Implication: IRH added an additional message to the CycleTel algorithm so that each user receives an SMS instructing them not to take hormonal pills at any time.
I became pregnant and my periods did not return.	0.4	Explanation: One participant became pregnant because of not using the method correctly (she had unprotected intercourse on unsafe days), and thus stopped using the service. Implication: IRH will reiterate instructions for correct use more frequently in messages to users.
Other	1.8	No further details provided

Findings from the Exit Male Interviews (n=131)

As part of the exit interview, each female participant was asked if it would be possible to interview her husband to learn about his perception of, and experience with, CycleTel. In total, 131 husbands completed exit interviews. As men were not admitted into the study through the screening and admission interview through which female participants enrolled, it should be noted that the husbands of female participants had less information about CycleTel and depended on information from their wives to learn about the service.

The exit interview with men asked questions about how the couple managed the fertile days. During the second cycle of use, CycleTel invites women to add their husband's phone number to the service so that he can receive the unsafe day alerts as well. Of the 131 men interviewed, 3 men reported signing up to also receive the unsafe day alerts to know which days pregnancy was likely. More popular strategies included that their wives told them it was an unsafe day (mentioned 85 times by interviewees), or showed them the SMS alert on her phone (mentioned 69 times). In 9 instances, men received a forwarded message of an unsafe day alert from their wives. On the unsafe days, men reported either abstaining from sex (mentioned 57 times) or using a condom (mentioned 101 times). However, 4 men reported having sex during fertile days without a condom, which is not how to correctly use the method. There were 9 men who reported being confused about their wife's fertile days, indicating that some men did not understand the concept or it was not explained to them completely.

Opinion of CycleTel as a family planning method. Male interviewees had similar features that they liked most about CycleTel to those that were mentioned by female participants, including that there are no side effects, that CycleTel doesn't affect health, and that is it easy to use (refer to Figure 6 for the breakdown of responses by feature). Most male respondents (74) indicated that they could not identify what they liked least about CycleTel, although some men did mention that there was difficulty sending/receiving messages (30), they did not like the need to abstain (19) or

use a condom (18) on fertile days, and there was some concern about getting pregnant (5 mentions).

Table 8: What Male Participants Reported Liking Most about CycleTel as a Family Planning Method

FEATURE	FREQUENCY*
No side effects	104
Doesn't affect health	95
It is easy to use	80
It is low-cost/free	76
My wife likes it	60
It is effective	53
It is convenient	40
Religious/moral reasons	24

* multiple responses

Table 9: What Male Participants Reported Liking Least about CycleTel as a Family Planning Method

FEATURE	FREQUENCY*
Nothing	74
Difficult sending/receiving text messages	30
Need to abstain during fertile days	19
Need to use condoms on fertile days	18
Concern about getting pregnant	5

* multiple responses

Further exploring their level of satisfaction and confidence in the method, 81% of male respondents would recommend the service to a friend or family member, while 19% would not. About 46% of the men were interested in continuing to use the service after the study. Yet, 42% of male respondents said they were very satisfied with CycleTel as a method to prevent pregnancy, and about 48% were somewhat satisfied. About 6% of the male respondents were not confident in CycleTel as a method to prevent pregnancy, while 63% were somewhat confident and 31% were very confident.

Opinion of CycleTel as a mobile phone service. The exit interview also asked males to think about what they liked or disliked about CycleTel as a mobile phone service, providing insights into the value that CycleTel offers to men when compared to other mHealth services and other family planning methods. Tables 10 and 11 depict the results. Timely reminders, ease of use, and privacy were the top reasons why male participants liked CycleTel as a mobile phone service—the same as the women, but women valued privacy over ease of use. A large number of male participants said there was nothing that they did not like about the service. However, some men did complain that there were too many messages sent, that the instructions were not clear, and it was difficult to send messages. Since only 3 of the men mentioned signing up to receive messages on their phone as well, it can be inferred that the men were speaking about their wife's experience when answering the question about what they liked least about the service.

Table 10: What Male Participants Reported Liking Most about CycleTel as a Mobile Phone Service

FEATURE	FREQUENCY*
Timely reminders	100
Easy to use	92
It maintains my privacy	73
Right amount of messages	69
Messages come when expected (reliable)	60
Ability to set message frequency for unsafe day alerts	32
Accessible hotline	28

* multiple responses

Table 11: What Male Participants Reported Liking Least about CycleTel as a Mobile Phone Service

FEATURE	FREQUENCY*
Nothing	89
Too many messages	28
Instructions were not clear	13
Difficulty to send messages	9
Too few messages	3
Messages were not clear	2

* multiple responses

Willingness to pay. In comparison to the female participants, a higher percentage of males interviewed were willing to pay for the service—52.7% were willing to pay for the service, 36.6% were not, and 10.7% were not sure. Average willingness to pay was 16.7 rupees per month, which was 6 rupees more than what the women reported. Similar to the female participants, males indicated that recharge (coupons or mobile credit) or a monthly deduction from the phone's credit would be the best way to charge for the service.

Influence on the couple's relationship. The interview also explored how CycleTel influenced the couple's relationship, from the perspective of the husbands. About 41% of men said that they thought communication improved with their wives as a result of using CycleTel, while 59% said they saw no change, which was similar to what the female participants stated. 36.3% said respect improved, while 64% observed no change. With respect to intimacy, 30% of the males interviewed cited that the service improved sex life, 69% said that there was no change, and 1% indicated that it changed for the worse.

Call Center Experience

Another objective of the Automated Testing was to test integration with a helpline. IRH identified ISHP as an appropriate partner because it already operated a family planning call center and would be able to provide CycleTel callers with family planning information in addition to support using CycleTel. To operate the helpline, ThoughtWorks, ISHP, and IRH, developed a backend management information system (MIS) for the helpline counselors. When a CycleTel user called in, a helpline counselor could pull up that user's CycleTel account by entering the caller's mobile phone number into the MIS. Then the counselor could pull up on her screen key information to support the help session—such as the woman's last period start date, the last messages sent to a from the service, and her fertile window that menstrual cycle.

ThoughtWorks and IRH conducted an initial training for all helpline counselors who would answer CycleTel calls, prepared a detailed manual for the counselors to study and refer back to,

and also conducted a refresher training to enhance the counselor's capacity. Counselors were instructed to log all calls in an Excel spreadsheet, detailing the reason for the call and what guidance was given to solve the query.

A total of 189 calls were placed to the helpline throughout the duration of the study by study participants. The helpline received the most calls about (1) issues entering the start date, (2) issues with the screening questions, and (3) problems sending or receiving messages, mostly in reference to the timing of when messages were received from CycleTel. Regarding the last issue, women expected message responses from CycleTel to be immediate after they sent in a message, but at times there was a 10-15 minute delay before CycleTel responded. Aside from these 3 main categories, there were 19 other distinct reasons why women called the helpline, and most of these categories had to do with gaining further clarity about the content of the messages that were sent from CycleTel.

From the data provided by the call logs, IRH made some changes to content messages and is also aware that there are issues with the way in which women are expected to sign up for the service. It is possible that women would have an easier time signing up for the service if they were assisted over the phone or in-person by a trained professional, rather than relying solely on SMS messages to complete enrollment.

Overall, the trial run for integrating a helpline into the CycleTel service was a success. It was evident from the number and type of calls that a helpline is a necessary component to the service's operations. The MIS functioned as expected and was an appropriate tool to help counselors field callers' queries. The IRH trainings and manual also proved to be sufficient for building the capacity counselors needed to respond to questions about CycleTel.

Service Monitoring Experience

The Automated Testing also provided an opportunity for IRH and ThoughtWorks to practice monitoring the service and build out more effective monitoring tools. IRH staff gained experience in downloading and reviewing the service data from the online administrative user interface. As a result of reviewing the data continuously, IRH requested improvements to the data's format so that it was easier to review and also more comprehensive. ThoughtWorks also worked with the mobile gateway provider (the entity in India that IRH rents the CycleTel phone number from and is responsible for sending messages across the mobile network providers) to configure a way to receive confirmation when messages are received by the user. This function allows ThoughtWorks to know when messages fail to reach users, so that ThoughtWorks knows to resend the messages. Message failure is rare, but given the nature of CycleTel as a family planning method, it is imperative that women receive their unsafe day alerts on time. It was best to practice monitoring the service within the scope of the study so that IRH and ThoughtWorks are more prepared for monitoring the service when it is launched to the public in India.

6. Discussion

The Automated Testing study allowed IRH to test the newly built CycleTel technology platform with a large sample of users to observe if the technology worked as designed and to identify any issues that would need to be fixed before offering the service more broadly in India. The study also provided an opportunity to integrate the service with a family planning helpline—allowing IRH to develop and implement training and supervision strategies, confirm the utility of a customized MIS, and garner additional feedback from users in order to improve the service. IRH, and its technology partner ThoughtWorks, were also able to test and refine monitoring processes that will inform future monitoring techniques. All of these steps were integral to preparing the CycleTel service for launch and roll-out in India.

Overall, the Automated Testing was successful in (1) validating that the technology worked as expected, (2) integrating a helpline into the service, and (3) determining processes for monitoring the service. There were certain components of the technology that were identified as problematic, affording IRH the opportunity to make improvements to the technology before launching the service widely. IRH was also able to improve message content and sequencing based on user feedback.

This study revealed important insights about how CycleTel should be positioned in the marketplace when it is launched as a consumer service. The attributes of the service that were liked most by both female and males will help create CycleTel's value proposition and marketing messages. As such, it will be important to highlight in consumer-facing promotional campaigns that CycleTel has no health side effects, is private, and easy to use.

There were also issues identified that will negatively impact CycleTel uptake and use if not addressed further. Study participants had the benefit of learning about CycleTel from a real person (the study recruiter) prior to participation. The recruiter taught participants about CycleTel, how to use it correctly, and instructed them how to sign up for the service. Despite the initial one-on-one interaction, many participants still had issues with enrolling to use the service and did not complete the study as designed. It is unclear how well the recruiting sessions were handled. The more important issue revealed, however, is that there is still a knowledge gap surrounding how women and couples will learn about the service and successfully sign up once CycleTel is launched in the marketplace. Relying on a sales-force for one-on-one engagements would be expensive, in addition to being a management feat. Therefore, future research will need to experiment with cost-effective ways to generate awareness and demand for CycleTel, and the level of effort needed to convert a potential user to an actual user.

Additionally, the IRH team feels that the Automated Testing results would have been more positive along the lines of satisfaction, confidence, willingness-to-pay, and interest in continuing use if CycleTel's ideal target audience in India—young, tech savvy Indian women aged 18-24 who

are newly married, with birth spacing needs—was better represented by the 715 women recruited into the study.

Based on the results of the Automated Testing, IRH will make changes to the CycleTel technology, and also take steps towards understanding CycleTel's business model and go-to-market strategies.

7. Conclusion

The Automated Testing study was an important step in CycleTel's product development cycle to validate that the automated technology functioned as expected. Before the service is launched widely in India, it is critical to get the technology right. If CycleTel were to be released in the marketplace with design flaws, which could result in mistrust and bad press for the brand, the service would have a hard time recovering and would likely fail in the market.

The Automated Testing study demonstrated that mHealth technology development and implementation requires continual iteration based on the preferences of the target audience and changes that occur in the technology's operating environment. The helpline and monitoring processes established during this study will ensure that there is a feedback, monitoring, and evaluation loop.

As a result of this study, IRH continues to maintain confidence that CycleTel holds great promise as a mHealth innovation with potentially large social impact in India and other locations worldwide.

Appendices – Informed Consent Forms and Interview Questionnaires

**Georgetown University, Institute for Reproductive Health
Consent to Participate in Research Study
Female Participant**

STUDY TITLE: Using Standard Days Method® via Text Messaging: CycleTel™ Automated Testing

PRINCIPAL INVESTIGATOR: Victoria Jennings

TELEPHONE: +1-(202)-687-1392

SPONSOR: The study is funded by the United States Agency for International Development (USAID)

INTRODUCTION

You are invited to consider participating in this research study. Please take as much time as you need to make your decision. Feel free to discuss your decision with whomever you want, but remember that ***the decision to participate, or not to participate, is yours.*** If you decide that you want to participate, please sign and date where indicated at the end of this form. If you have any questions, you should ask the researcher who explains this study to you.

BACKGROUND AND PURPOSE

The purpose of the study is to evaluate the acceptability and feasibility of CycleTel™, a mobile phone application that facilitates the use of the Standard Days Method® (SDM) of family planning. The SDM is a fertility awareness-based method of family planning that specifies days 8 through 19 of a woman's menstrual cycle as fertile for women with cycles that come about once a month. In India, research has shown that women and men are interested in SDM, can use it correctly, and find it easy to learn and use. Offering CycleTel, an SMS-based mobile phone application, would enable more couples to use SDM. This study will determine if women and men are interested in CycleTel, if the messages provided by the service are appropriate, and if couples can use CycleTel correctly.

This study is being sponsored by the United States Agency for International Development (USAID). This means that *USAID* is paying Georgetown University to conduct this study with *Victoria Jennings* as the primary researcher.

STUDY PLAN

You are invited to participate in the study because you have expressed an interest in using the SDM as a family planning method, you own a mobile phone, and you can send and receive text messages. If you decide to participate in the study, you will be asked to sign up to use CycleTel on your mobile phone for two menstrual cycles, which is approximately 2 months. We expect that you will be in the study for approximately two and a half months to three months.

If you decide to participate in the study, you will be interviewed 2-3 times. First, there will be an in-person **Admission Interview**, just before you begin to use CycleTel. You may be sent an invitation via text message to participate in a **Follow-Up Interview**, after completion of one month of CycleTel use. If you agree to participate in a follow-up interview, an interviewer will call you on your mobile phone to complete the interview. Lastly, there will be an **Exit Interview** upon the completion of this study. Exit interviews may be conducted over the phone or in person. You will also have the option of inviting your husband to be interviewed about CycleTel.

Should you decide to participate in the study, you will be asked to provide your phone number. An interviewer will first send you a text message and then call you to conduct each interview over the phone. Each interview will take approximately 15 minutes. Depending on funding, participants may be able to continue to use CycleTel free of charge after the study is complete. However, there is a chance that the CycleTel text message service may no longer be available after the study. If you wish to continue using a family planning method, you will be provided with information on all family planning methods including SDM with CycleBeads®, a string of color-coded beads that is used by many women in India and other countries instead of CycleTel.

A maximum of 700 women who have chosen to use CycleTel will participate in the study. A maximum of 150 men who are the husbands of female participants will also be contacted to be interviewed at the end of the study.

RISKS

As with any family planning method, use of SDM through CycleTel involves the risk of pregnancy. If you use the method correctly this risk is small. There is no physical risk in participating in the interviews about your use of the Standard Days Method and the CycleTel text message service. There is a small risk that talking about personal issues in the interviews will cause you embarrassment. Please understand that participating in this study is entirely voluntary. You do not need to answer any question that makes you feel uncomfortable, and you can stop your participation at any time. Your participation will not affect you economically, financially or legally. There is no cost to you to participate in the study..

BENEFITS

While you may benefit from being able to prevent pregnancy through use of the Standard Days Method and CycleTel, there are no direct benefits to taking part in the study activities (i.e., interviews) themselves. Others may benefit in the future from information gathered in this study. You will not be paid for participating in the study, but you will receive phone credit to cover the costs of text messages and calls that you send and receive as part of the study.

CONFIDENTIALITY

All efforts will be made to keep your personal information confidential. The questionnaires with your responses will be stored in a locked filing cabinet a. Your name will not appear on any of the forms that we use; only a unique study identification code will be used. Only the study coordinator will be able to link your name to your study identification code.

The information you provide during the interviews will be entered into an encrypted, password-protected computer and will be identified only by your study identification number. Only authorized users of the computer will have access to the data. Restricting access to the data will help ensure that your responses remain confidential and are not available to other people. Your name will not be used when data from this study are published.

The CycleTel application will also collect data on the way in which you interact with the service. For example, the system will capture a record of the messages you send to the CycleTel number and the responses that the system sends to you. This data will only be associated with your mobile phone number; your name will not appear in the system at all. This data will only be available to designated technology administrators and the study coordinators. Only technology administrators and study coordinators with a certified login and password will be able to view the data. The data will also reside on an encrypted server, which will serve to further protect your data.

Individuals from the Georgetown University Institutional Review Board, other Georgetown University offices, or Federal regulatory agencies may look at records related to this study, both to assure quality control and to analyze data. Your name and any material that could identify you will remain confidential except as may be required by law.

YOUR RIGHTS AS A RESEARCH PARTICIPANT

Participation in this study is entirely voluntary at all times. You can choose not to participate at all or to leave the study at any point. If you decide not to participate or to leave the study, there will be no effect on your relationship with the researcher, or any other negative consequences to you. During the interview you do not have to answer all the questions. Only respond to questions that you are comfortable talking about, and tell a researcher if you prefer not to answer a question.

If you decide that you no longer want to take part in the study, you are encouraged to inform a researcher of your decision. In that case, the information already obtained through your participation will be included in the data analysis and final report for this study; unless you tell us that you prefer that it not be included.

QUESTIONS OR CONCERNs?

If you have questions about the study, you may contact Victoria Jennings at the Institute for Reproductive Health, Georgetown University, in Washington, D.C. at +1-202-687-1392. You may call Priya Jha, India Country Representative at +91- 11- 46113415/16. Please call the Georgetown University IRB Office at **+1-202-687-6553** (8:30am to 5:00pm, Monday to Friday) if you have any questions about your rights as a research participant.

STATEMENT OF PERSON OBTAINING INFORMED CONSENT

I have fully explained this study to the participant. I have discussed the study's purpose and procedures, the possible risks and benefits, and that participation is completely voluntary.

I have invited the participant to ask questions and I have given complete answers to all of the participant's questions.

Signature of Person Obtaining Informed Consent

Date

CONSENT OF PARTICIPANT

I understand all of the information in this Informed Consent Form.

I have received complete answers to all of my questions.

I freely and voluntarily agree to participate in this study

I understand that I will be audio-recorded as a part of this study.

Participant Signature

Date

Printed Name of Participant

**Georgetown University, Institute for Reproductive Health
Consent to Participate in Research Study
Males (Husbands of Women Participants)**

You are invited to participate in a research study titled "Using Standard Days Method® via Text Messaging: CycleTel™ Automated Testing." This study is being conducted by Georgetown University's Institute for Reproductive Health, located in Washington, DC and New Delhi, India. The purpose of the study is to learn how women and their husbands use the mobile phone service, CycleTel™, to facilitate use of the Standard Days Method® (SDM) of family planning. This study will determine if women and men are interested in CycleTel, if the messages provided by the service are appropriate, and if couples can use CycleTel correctly. Results of the study will be used to make changes to the service and prepare for a wider launch of the service in India and in other countries.

You are invited to participate in the study because your wife has been using CycleTel for the past 2-3 months, and we would like to find out about your experience with the service. Your wife has agreed that you could be invited to participate. Should you decide to participate in the study you will be interviewed once. The interview will be conducted over the phone and will take about 15 minutes. The decision to participate, or not to participate, is yours. 150 men whose wives participated in the study will be interviewed about their experience with CycleTel.

As your participation in this study involves only answering questions related to your use of the Standard Days Method and CycleTel, participation involves no physical risk to you. There is a slight risk that talking about personal issues in the interviews will cause you embarrassment. Please understand that participating in this study is entirely voluntary. You do not need to answer any question that makes you feel uncomfortable, and you can stop your participation at any time. Your participation will not affect you economically, financially or legally. There are no direct benefits to taking part in interview, but others may benefit in the future from information gathered in this study.

All efforts will be made to keep your personal information confidential. The questionnaires with your responses will be stored in a locked filing cabinet. Your name will not appear on any of the forms that we use; only a unique study identification code will be used. Your answers will be entered into a database on a password protected computer, in password protected files. Only the researchers will have access to any of the information we collect.

Being in this study is voluntary. You do not have to answer every question and you can stop the interview whenever you want to. If you have questions or problems about the study, please do not hesitate to ask now. You may also call Priya Jha, India Country Representative at +91- 11-46113415/16 if you have questions in the future. You may also call the Georgetown University IRB Office at +1-202-687-1506 during regular business hours if you have any questions about your rights as a research participant.

By taking part in this interview, you are indicating your consent to participate in the study.

FEMALE ADMISSION

Female Admission Questionnaire: CycleTel™ Automated Testing

This interview is only to be administered after the informed consent form is signed by the study participant and the woman is screened for eligibility. After this interview is conducted, the researcher will help the woman SMS "JOIN" to the designated CycleTel mobile number.

#	Questions	Coding categories and responses	skips
101	Code of woman	_____	
102	Mobile phone number	_____	
103	Interviewer name	_____	
104	Date of interview	— — — Day Month Year	

Part 1: Demographics

To begin, I'd like to ask you a few basic questions about yourself.

104	In what month and year were you born?	Month _____ Year _____	
105	What is the highest level of school you attended? (Replaced with SEC grid)	Primary..... 1 Secondary .. 2 Higher secondary .. 3 Bachelors..... 4 Masters 5 Other (specify) _____	
106	What is your current employment status?	Employed (full time, part time)..... 1 Not employed 2	
107	What language do you usually speak at home? (Mark all that apply)	Hindi..... 1 English..... 2 Punjabi 3 Bengali 4 Tamil 5 Telgu 6 Kannada 7 Other _____	

Now I'd like to ask you about your husband.

#	Questions	Coding categories and responses	skips
108	How old was your husband on his last birthday?	Age in completed years _____	
109	How long have you and your husband been married?	_____ less than 1 year (check if yes) _____ # of years	

Part 2: Family Planning History

Next, I'd like to ask you about your family and your previous experiences with family planning.

201	Do you have children?	Yes.....1 No.....2 → 204	
202	How many living children do you have?	_____	
203	What is the age of your youngest child?	_____ months (<i>if less than 1 year</i>) _____ years (<i>age at last birthday</i>)	
204	Do you want to have (more) children?	Yes.....1 No.....2 Not sure3 → 206	
205	When do you want to have (another) child? (Register 00 if less than 1 year)(Probe for number of years if she says "not now". Suggested language: "How soon do you think you'll want to have a (or another) child?"	Number of years _____	
206	Are you currently doing anything to prevent pregnancy?	Yes.....1 No.....2 → 208	
207	What are you currently doing to prevent pregnancy? (Mark all that apply. If other methods are mentioned such as pill, injection, IUD or LAM do not enter into study)	Condoms1 Rhythm2 Withdrawal3 Abstinence4 Female condom5 Jaggery or other natural substance6 Other _____	

#	Questions	Coding categories and responses	skips
208	What (else) have you done in the past to prevent pregnancy? (Mark all that apply. Ask about options she doesn't mention)	Condoms 1 Rhythm 2 Withdrawal 3 Abstinence 4 Female condom 5 IUD 6 Lactational Amenorrhea Method 7 Diaphragm 8 Foam, jelly, or spermicide 9 Pill 10 Injections 11 Implants/Norplant 12 Never used a method 13 Other (specify): _____	
209	Are you currently breastfeeding? (Ask this question only if youngest child is less than 2 years old.)	Yes 1 No 2	

Part 3: Mobile phone use

Now I would like to ask you about your mobile phone use.

301	Do you own a conventional (basic) or smart (advanced) phone? (Define these terms if needed as follows: <ul style="list-style-type: none"> • Basic phone: Any mobile handset which has the basic features of making calls/sending SMS • Smart phone: Any mobile handset which has along with the basic features some additional features such as downloading applications (games, chat, music etc), accessing the internet, sending/receiving emails) 	Smart phone 1 Conventional phone 2	
302	What mobile connection (local term) do you currently use?	Airtel 1 Vodaphone 2 Reliance 3 BSNL Mobile 4 Tata mobile 5 MTNL Mobile 6 IDEA 7 Aircell 8 Other (specify) _____	

#	Questions	Coding categories and responses	skips
303	Do you currently use any applications or services on your mobile phone? <i>(Name some examples, as per #304)</i>	Yes1 No2 →END	
304	List the mobile phone applications/services that you use. <i>(Read examples and prompt for others)</i>		
305	How did you hear about these applications/services? <i>(Circle all that apply.)</i>	Friend(s)1 Husband2 Other Family members.....3 Advertisement from service provider4 Other (specify) _____00	

ONCE THE ADMISSION INTERVIEW IS COMPLETE, ASK HER IF SHE HAS HER MOBILE PHONE WITH HER AND IF YOU CAN ASSIST HER IN JOINING THE CYCLETTEL SERVICE. IF SHE DOES HAVE HER PHONE, YOU WILL HELP HER SEND “JOIN” TO THE CYCLETTEL NUMBER AND SUPPORT HER IN ANSWERING THE SCREENING QUESTIONS IF SHE NEEDS HELP. IF SHE DOES NOT HAVE HER PHONE, LEAVE HER WITH THE CYCLETTEL NUMBER AND GIVE HER A DEMO ABOUT HOW TO JOIN THE SERVICE. SHE WILL BE ASKED TO SIGN UP WITHIN THE NEXT 3 DAYS. IF SHE DOES NOT SIGN UP, SHE WILL BE CALLED BY A RESEARCHER TO REMIND HER TO DO SO. INSTRUCT HER THAT SHE MIGHT BETO PARTICIPATE IN A FOLLOW-UP INTERVIEW AFTER ONE CYCLE OF USE, AND THAT SHE WILL BE REQUIRED TO COMPLETE AN EXIT INTERVIEW AFTER TWO CYCLES OF USE.



PROJECT - CYCLETEL

JOB# B.222951

FEMALE FOLLOW-UP QUESTIONNAIRE - CycleTel™ Automated Testing

Study ID	CYCLETEL-FAD	(101-108)	Resp. No.	_____	(109-117)
Interviewer No.	_____	(121-124)	Interview Length	_____	(125-128)
No. Of Queries	_____	(129-130)	Reference No.	_____	(131-132)

NAME OF RESPONDENT: Mr./Mrs. _____ SURNAME _____

ADDRESS IN FULL:

BUILDING / Plot NAME / NO.: _____ FLAT / ROOM NO.: _____ FLOOR NO.: _____

STREET / ROAD NO./NAME: _____ Locality Name _____

AREA NAME: _____ CITY/District / village: _____ PIN CODE: _____
Taluka name: _____

LANDMARK: _____

EMAIL ADDRESS: _____

DATA SUPPLIER NAME : _____ DATA VERIFIER NAME : _____

Mobile number : _____ Landline Number: _____

Q1 IDENTIFICATION NUMBER.

(R1)	AREA NO.	_____	_____	_____	_____	_____	(133-140)
(R2)	G.C.No.	_____	_____	_____	_____	_____	(141-148)
(R3)	LISTING NO.	_____	_____	_____	_____	_____	(149-156)
(R4)	MAIN No.	_____	_____	_____	_____	_____	(157-164)
(R5)	D.S. No.	_____	_____	_____	_____	_____	(165-172)
(R6)	D.V. No.	_____	_____	_____	_____	_____	(173-180)

Q.C. [MA]											
(R1)	D.V.	RQ AC	CB AC	RQ BC	CB BC	RQ TBC	CB TBC	RQ VC	CB VC	RQ SCR	CB SCR
		(221) 1 SIGN.	2 SIGN.	3 SIGN.	4 SIGN.	5 SIGN.	6 SIGN.	7 SIGN.	8 SIGN.	9 SIGN.	0 SIGN.
		DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.
(R2)	OC /OE / SOE	(222) 1 SIGN.	2 SIGN.	3 SIGN.	4 SIGN.	5 SIGN.	6 SIGN.	7 SIGN.	8 SIGN.	9 SIGN.	0 SIGN.
		DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.
(R3)	OM/SM	(223) 1 SIGN.	2 SIGN.	3 SIGN.	4 SIGN.	5 SIGN.	6 SIGN.	7 SIGN.	8 SIGN.	9 SIGN.	0 SIGN.
		DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.	DATE.

Q3a	Date of Interview [dd/mm/yy] Please record using the short date format (dd/mm/yy). For example, if the date is 21 December 2008, record as 211208
Q3b	RECORD TIME INTERVIEW STARTED / ENDED Please record using 24-hour format. For example, if the time is 2:47pm, record as 1447

Q5		Booster	2	
----	--	---------	---	--

GO- Scrutiny Log

Q6 ACTION TAKEN TO RECTIFY SCRUTINY ERRORS [SA]		Code (334)
	No DA Errors	1
	Corrected by GO (without consultation with CS)	2
	Corrected by GO in Consultation with CS	3
	Corrected at DA end (eg. missing answers, missing back translation etc.)	4
	Questionnaire not usable; sent back to Field	5

DATA SUPPLIER DECLARATION

I declare that the respondent , whose name and address appear above, was unknown to me until the interview. I confirm that, before returning this questionnaire, I have checked that it was carried out in accordance with the MRSI Code of conduct - the Market Research Professional Code of conduct for this country, and instructions supplied to me for this study. I understand that the information given to me during the interview must be kept confidential.

SIGNED _____ DATE _____

Good morning/afternoon, My name is and I am calling from A C Nielsen on behalf of CycleTel . I have called you to talk to you briefly about your experience with CycleTel so far. I would be asking few questions related to sending/receiving SMS, CycleTel use and service features etc. It will take around 5-8 minutes. If you can spare sometime and talk to me, may I begin to take your feedback

Q6 CLIENT'S IDENTIFICATION CODE _____ (351-354)

Q7 Mobile phone number
(R1) Mobile phone number (355-364)

Q8 Interviewer name _____ (365-368)

Q13	Self code[SA]	Code (431)	Route
	Available to be interviewed.....	1	
	No answer (either no one picked up or the phone was switched off).....	2	
	Inconvenient time (Record the convenient time).....	3	
	Number no longer in service.....	4	

Q14 Second Interview Attempt - Date
Second Interview Attempt - Date (DD-MM-
(R1) YYYY) (432-439)

Q15	Self code[SA]	Code (440)	Route
	Available to be interviewed	1	
	No answer(either no one picked up or the phone was switched off).....	2	
	Inconvenient time(Record the convenient time).....	3	
	Number no longer in service	4	

Q16 Third Interview Attempt - Date
Third Interview Attempt - Date (DD-MM-
(R1) YYYY) (441-448)

Q17	Self code[SA]	Code (449)	Route
	Available to be interviewed	1	
	No answer(either no one picked up or the phone was switched off).....	2	Close
	Inconvenient time(Record the convenient time).....	3	
	Number no longer in service	4	

Part 1: Issues with sending/receiving messages

Interviewer to read out: To begin, I'd like to ask you about your experience with sending and receiving CycleTel text messages in the past month.

Q18	<i>Options are mutually exclusive</i> Did you have any problems receiving text messages that were sent to you from CycleTel during the past month?[SA] Yes..... No	Code (450)	Route
		1	2

Q19 ***Programmer Note: Ask only those coding 1 in Q18***
If so, what problems did you have? Please describe.

(451-468)

Q20	ASK ALL <i>Options are mutually exclusive</i> Did you have any problems sending text messages to CycleTel during the past month? [SA]	Code (469)	Route
	Yes.....	1	
	No	2	

Q21 ***Programmer Note: Ask only those coding 1 in Q20***
If so, what problems did you have? Please describe.

(470-524)

Q22	<p>Options are mutually exclusive</p> <p>ASK ALL</p> <p>Were you able to check your phone every day?[SA]</p> <p>Yes</p> <p>No</p>	Code (525)	Route
		1	2

Q23 *Programmer Note: Ask only those coding 2 in Q22*

If not, why not?		
	(526-543)	

Part 2: Use & Service Features

Interviewer to read out: Next I'd like to ask you about the messages that you send to and receive from CycleTel.

Q24	Options are mutually exclusive ASK ALL Did you have any problems knowing which days you could get pregnant? [SA] <i>PROBE Were you ever confused about whether or not you could get pregnant on a particular day?</i> Yes No	Code (544)	Route
		1	
		2	

Q25	Programmer Note: Ask only those coding 1 in Q24 Please explain your problem. 		
		(545-562)	

Q26	Options are mutually exclusive ASK ALL Did you contact the helpline in the past month? [SA] Yes No	Code (563)	Route
		1	
		2	

Q27	Programmer Note: Ask only those coding 2 in Q26 Interviewer's note: Write down the reason mentioned. Why didn't you contact the helpline? 		
		(564-618)	

Q28	Select all that apply Programmer Note: Ask only those coding 1 in Q26 Provide a text box to capture others (Specify) SHOW CARD Why did you contact the helpline? [MA] Thought I missed a message Didn't understand message I received Didn't know when I could get pregnant Texted the wrong date of my period Had sex on unsafe day Other (specify)	Code (619)	Route
		01	
		02	
		03	
		04	
		05	
		06	

Q29	Options are mutually exclusive Programmer Note: Ask only those answering Q28 Were you satisfied with the response you received from the helpline? [SA] Yes No	Code (629)	Route
		1	
		2	

Q30	Programmer Note: Ask only those coding 2 in Q29 If not, why not? 		
		(630-647)	

Q31	ASK ALL <i>Options are mutually exclusive</i> Did you receive any messages from CycleTel that you did not understand?[SA] Yes No	Code (648)	Route
		1	
		2	

Q32 **Programmer Note: Ask only those coding 1 in Q31**
 Which messages you did not understand?
 1. SMS Before registration.....1
 2. SMS After registration:.....2

Write down the verbatim of the respondents on what messages she did you not understand?

(649-666)

Q33	ASK ALL <i>Options are mutually exclusive</i> Interviewer's instruction: Read out options At times, CycleTel sent you informative messages about the service and its features. How helpful were these messages?[SA] Very helpful Helpful Not helpful Don't know about these messages	Code (667)	Route
	Very helpful	1	
	Helpful	2	
	Not helpful	3	
	Don't know about these messages	4	

Q34 **Programmer Note: Ask only those answering Q33**
Interviewer's note: Write down the reason mentioned
 Why is that?

(668-722)

Q35	Options are mutually exclusive Did you ever SMS "INFO" to the CycleTel number for more information?[SA] Yes No	Code (723)	Route
	Yes	1	
	No	2	

Q36	Programmer Note: Ask only those coding 1 in Q35 Was the information helpful?[SA] Yes No	Code (724)	Route
	Yes	1	
	No	2	

Q37 **Programmer Note: Ask only those answering Q36**
 Why do you say that?

(725-742)

Part 3: Managing Fertile Days

Interviewer to read out: Next I'd like to ask you about how you communicated with your husband about when you could get pregnant in the past month.

Q38	Select all that apply Programmer Note: ASK ALL SHOW CARD How did you let your husband know which days were the unsafe days? [MA] Told him about the message from CycleTel Let him view text messages..... I forwarded the "unsafe day" message to him	Code (743)	Route
	Told him about the message from CycleTel	01	
	Let him view text messages.....	02	
	I forwarded the "unsafe day" message to him	03	

He also received the unsafe alerts	04	
Did not tell him about CycleTel but informed him about the unsafe days	05	
Other (specify)	06	

Q39	Select all that apply How did you and your husband usually handle the unsafe days? [MA] Did not have sex..... Used a condom..... Other (specify)	Code (753)	Route
		01	
		02	
		03	

Q40	Options are mutually exclusive In the past month, did you have sex without a condom on any of the unsafe days?[SA] Yes..... No	Code (763)	Route
		1	
		2	

Q41	Programmer Note: Ask only those coding 1 in Q40 SHOW CARD If so, why?[MA] I forgot/was confused..... My husband insistedNo particular reason..... Other	Code (764)	Route
		01	
		02	
		03	
		04	

Q42	Did you use Emergency Contraception at any point while you were using CycleTel?[SA] Yes	Code (774)	Route
	No	1	
		2	

Q43	ASK ALL Do you remember receiving a message about EC use at any point while using CycleTel?[SA] Yes	Code (775)	Route
	No	1	
		2	

Q44	Programmer note: Ask only if coded 1 in Q43 What did the message say? _____	(776-830)
-----	--	-----------

Part 4: User Feedback

Q45	Programmer Note: ASK ALL (Answer any questions and note down any questions asked) Do you have any questions about CycleTel? _____	(831-834)
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Talking Script: Thank you for showing your interest in us. I would like to tell you that for all your queries, you can call on the toll free call centre number provided to you. We will be visiting you soon for a brief interaction when you complete the process.



PROJECT – CYCLETTEL

JOB # B.222951

FEMALE EXIT QUESTIONNAIRE: CYCLETTEL™ AUTOMATED TESTING

Study ID	CYCLETTEL-FAD	(101-108)	Resp. No.	(109-117)
Interviewer No.		(121-124)	Interview Length	(125-128)
No. Of Queries		(129-130)	Reference No.	(131-132)

Q3a	Date of Interview [dd/mm/yy] Please record using the short date format (dd/mm/yy). For example, if the date is 21 December 2008, record as 211208			
Q3b	RECORD TIME INTERVIEW STARTED / ENDED Please record using 24-hour format. For example, if the time is 2:47pm, record as 1447			
Q3c	Time Started (24-hour format) Time Ended (24-hour format)			
(R1)	INTERVIEW DETAILS	Q3a	Q3b	Q3c
		Date of Interview [dd/mm/yy]	Time Started (24-hour format)	Time Ended (24-hour format)
		(224-229)	(230-233)	(234-237)
Q4	(R1) (R2) (R3) (R4)			
Q5				

GO- Scrutiny Log

Q6 ACTION TAKEN TO RECTIFY SCRUTINY ERRORS [SA]		Code (334)
	No DA Errors	1
	Corrected by GO (without consultation with CS)	2
	Corrected by GO in Consultation with CS	3
	Corrected at DA end (eg. missing answers, missing back translation etc.)	4
	Questionnaire not usable; sent back to Field	5

DATA SUPPLIER DECLARATION

I declare that the respondent , whose name and address appear above, was unknown to me until the interview. I confirm that, before returning this questionnaire, I have checked that it was carried out in accordance with the MRSI Code of conduct - the Market Research Professional Code of conduct for this country, and instructions supplied to me for this study. I understand that the information given to me during the interview must be kept confidential.

SIGNED _____ DATE _____

Good morning/afternoon, My name is and I work for ACNielsen, and I am visiting you on to talk to you about your experience with CycleTel. I would be asking you few questions from you messages, satisfaction with CycleTel, continuation of service etc. It will take around 15 minutes. May I proceed?

Q6	CLIENT'S IDENTIFICATION CODE

	(351-354)

Q7	Mobile phone number
----	---------------------

(R1) Mobile phone number.....	<input type="text"/>	(355-364)									
-------------------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	-----------

Q8	<input type="text"/>						
(R1)							

Q9	First Interview Attempt - Date										
	First Interview Attempt - Date (DD-MM-	<input type="text"/>									
	(R1) YYYY).....										(424-431)

Q10	Options are mutually exclusive										
	<u>Self code</u>										
	Result of first interview attempt[SA]										
	Available to be interviewed.....										1
	Respondent not at home										2
	Inconvenient time (Record the convenient time).....										3
	Others										4
	Not interested now/ Don't want to be interviewed										5

Q11	Second Interview Attempt - Date										
	Second Interview Attempt - Date (DD-MM-	<input type="text"/>									
	(R1) YYYY).....										(433-440)

Q12	Options are mutually exclusive										
	<u>Self code</u>										
	Result of second interview attempt[SA]										
	Available to be interviewed.....										1
	Respondent not at home										2
	Inconvenient time (Record the convenient time).....										3
	Others										4
	Not interested now/ Don't want to be interviewed										5

Q13	Third Interview Attempt - Date										
	Third Interview Attempt - Date (DD-MM-	<input type="text"/>									
	(R1) YYYY).....										(442-449)

Q14	Options are mutually exclusive										
	<u>Self code</u>										
	Result of third interview attempt[SA]										
	Available to be interviewed.....										1
	Respondent not at home										2
	Inconvenient time (Record the convenient time).....										3
	Others										4
	Not interested now/ Don't want to be interviewed										5

Q15	Options are mutually exclusive										
	REASON FOR EXITING[SA]										
	CLIENT HAS COMPLETED 2 MENSTRUAL CYCLES.....										01
	CLIENT WISHES TO EXIT STUDY EARLY.....										02
	SHORT OR LONG CYCLE										03
	OTHERS (Please specify)										04

Part 1: Messages

Interviewer to read out: I would like to ask you a few questions about the messages you received.

Q16	Did you have any problems accessing /sending text messages that were sent to										
-----	--	--	--	--	--	--	--	--	--	--	--

you from CycleTel during the past month? [SA]	(451)	
Yes	1	
No	2	

Q17 **Ask only those coding 1 in Q16**
What problems did you have? Please describe.

(452-455)

Q18	Options are mutually exclusive Do you feel that the messages arrived at the appropriate time? [SA]	Code (456)	Route
	Yes	1	
	No	2	

Q19 **Provide boxes for appropriate time (HH:MM a.m./p.m.format) when probed.**
Why do you say that?
PROBE What would be an appropriate time

(457-474)

Q20	Options are mutually exclusive Do you think that the right amount of messages were sent to you? [SA] PROBE about screening questions at enrollment, unsafe day alerts, reminder messages and informational message	Code (475)	Route
	Yes	1	
	No	2	

Q21 Why do you say that?

(476-530)

Part 2: Managing Fertile days. : Now I would like to ask you about few questions about how you handled your unsafe days while using CycleTel

Q22	Options are mutually exclusive In the past month, did you have sex without a condom on any of the unsafe days? [SA]	Code (531)	Route
	Yes	1	
	No	2	

Q23 **Ask only those coding 1 in Q22**
If so, why??

(532-535)

Part 3: Satisfaction with CycleTel

Interviewer to read out: Now I would like to ask you about how you feel about CycleTel as a way to prevent pregnancy and as a mobile health service.

Q24	Options are mutually exclusive While you were using CycleTel, were you ever confused about which days you could get pregnant? [SA] Yes No	Code (536)	Route
		1	
		2	

Q25	Why do you say that? _____ _____ _____	(537-554)
-----	---	-----------

Q26	Select all that apply Provide text box for Others (please specify) SHOW CARD As a family planning tool, what do you like most about CycleTel? [MA] It is low-cost/free Doesn't affect health No side effects My husband opposes using another method Religious/moral reasons It is easy to use It is effective Convenient Other (Specify)	Code (555)	Route
	01		
	02		
	03		
	04		
	05		
	06		
	07		
	08		
	09		

Q27	Select all that apply Provide text box for Others (please specify) SHOW CARD As a family planning tool, what do you like least about CycleTel? [MA] Need to abstain during fertile days Need to use condoms on fertile days Difficulty sending/receiving text messages Concern about getting pregnant Nothing..... Other (Specify)	Code (565)	Route
	1		
	2		
	3		
	4		
	5		
	6		

Q28	Select all that apply Provide text box for Others (please specify) SHOW CARD We just spoke about your experience using CycleTel as a family planning method. Now I would like to ask you some questions about CycleTel as a mobile health service. First, what are some of the features of the CycleTel service that you like most? [MA] Easy to use It maintains my privacy Timely reminders Messages came when expected Right amount of messages..... Accessible helpline..... Frequency features Other (Specify)	Code (566)	Route
	01		
	02		
	03		
	04		
	05		
	06		
	07		
	08		

Q29	Select all that apply Provide text box for Others (please specify) SHOW CARD What are some of the features of the CycleTel service that you like least? [MA] Too many messages	Code (576)	Route
		01	

Messages were not clear	02	
Instructions were not clear	03	
Difficult to send messages	04	
Too few messages	05	
Nothing.....	06	
Other (Specify)	07	

Q30	Were you satisfied with the response you received from the Helpline during the two months of CycleTel use? [SA]	Code (623)	Route
	Yes	1	
	No	2	
	Not contacted ever	3	

Q31 **Ask only those coding 2 or 3 in Q30**
 You mentioned that you (mentions the response in **Q30** i.e were not satisfied or did not contact the helpline). Could you tell me the reason why?

(624-627)

Q32 **code 1,2 and 3 are mutually exclusive for all the three responses.**
SHOW CARD
 For some couples, using CycleTel can influence the couple's relationship. Other couples do not see a change. Of the following areas, please indicate if you have noticed a change for the better, worse or not at all. [SA]
PROBE for other changes in the relationship

	Better	Worse	No Change	
(R1) Communication	1	2	3	(628)
(R2) Respect for each other	1	2	3	(629)
(R3) Improved sex life	1	2	3	(630)

Q33 **Options are mutually exclusive**
SHOW CARD
 In general, how satisfied are you with CycleTel as a method to prevent pregnancy?
 [SA]

Not at all satisfied	1
Not so satisfied.....	2
Neither satisfied nor dissatisfied	3
Somewhat satisfied	4
Very satisfied	5

Q34 **Options are mutually exclusive**
SHOW CARD
 How confident are you that using CycleTel will help you prevent pregnancy? [SA]

Not at all confident	1
Not so confident	2
Somewhat confident	3
Very much confident.....	4

Q35 **Options are mutually exclusive**
 Would you recommend CycleTel to a family member or friend who wanted to prevent pregnancy? [SA]

Yes	1
No	2

Q36	Why do you say that?	
	<hr/>	
	<hr/>	
	<hr/>	
	(634-651)	

Part 4: Continuation

Interviewer to read out: Before we continue, I wanted to explain that after today, you are eligible to continue using CycleTel if you choose to do so. The CycleTel service is similar to other paid services offered on your mobile phone, such as cricket alerts, missed call alert services, etc., but it will be offered free of cost to you. You would only have to bear the cost of outgoing SMS and the airtime for the calls to the helpline, if any (No further reimbursement will be given to you if you chose to use CycleTel beyond the pilot phase)

Interviewer to read out: Now I have a few final questions:

For Code 03 in Q15, THANK THE PARTCIPANT FOR PARTICIPATING IN THE STUDY and CLOSE THE INTERVIEW

Q37	Options are mutually exclusive		Code (652)	Route
	Would you be interested in continuing to use CycleTel? [SA]		1	
	Yes		2	
	No			

Q38	Ask only those coding 2 in Q38	
	If not, why not?	
	<hr/>	
	<hr/>	
	<hr/>	
		(653-670)

Q39	ASK ALL Options are mutually exclusive Interviewer instruction: Tell them that this question is only for the purpose of research and has no relation to the free service that they would receive if they chose to continue using CycleTel)		Code (671)	Route
	Would you be willing to pay for CycleTel (aside from the normal cost of sending and receiving text messages)? [SA]		1	
	Yes		2	
	No		3	
	Can't say.....			

Q40	Ask only those coding 1 in Q39		
	If so, how much would you be willing to pay per month?		
	(R1) Rs.....	<input type="text"/> <input type="text"/> <input type="text"/>	(672-674)

Q41	Ask only those coding 1 in Q39 Select all that apply SHOW CARD		Code (675)	Route
	How would you want to pay for the services? [MA]		01	
	Monthly deduction from phone		02	
	Recharge (coupons/mobile recharge)		03	
	Annual subscription fee		04	
	Others (Please specify)			

Q42	What do you think would be the most effective way to tell people about CycleTel? PROBE How would you advertise this application? Where would you expect to hear about it? For example, via SMS from a friend or your service provider? On a billboard? In a magazine? From your doctor?	
-----	---	--

For Code 2 in Q 15: THANK THE PARTCIPANT FOR PARTCIPATING IN THE STUDY AND PROCEED FROM Q43.

TELL THE WOMAN: Thank you for participating in this study. Your participation in the study is complete. You can continue to use CycleTel if you want to, but we will no longer contact you as a participant in this study. However, if you choose to continue using CycleTel, you may be asked to participate in a short customer survey. If you wish to discontinue the service, please SMS "STOP" at anytime to the CycleTel number. If you decide to discontinue use of CycleTel and you wish to avoid pregnancy, there are a variety of methods available at your local health center including pills, condoms, IUD, and female and male sterilization. (Answer any questions and/or provide additional information if required and encourage her to visit her health care provider to find a method that will work for her and her husband.) For more information on CycleTel, a toll free helpline number has been provided to you.

Q43	Options are mutually exclusive Could you invite your husband to be interviewed telephonically?[SA]	Code (740)	Route
			1
	Yes		2
	No		3
	Will ask.....		CLOSE

Q44 **Ask only those coding 1 in Q43**
Provide box to enter the time (in Date/HH:MM a.m/p.m. format)
What will be the best time to call him?

(741-744)

Q45 **Ask only those coding 1 in Q43**
what is your husband's mobile phone number? If any respondent wants her husband to be called on her cell number then please enter her number here (as her husband 's number).
(R1)

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(745-754)

THANK YOU or giving time. Please convey to your husband that we will call him shortly (within 2 weeks) for a brief telephonic interview.



PROJECT – CYCLETTEL

JOB # B.222951

MALE EXIT QUESTIONNAIRE: CYCLETTEL™ AUTOMATED TESTING

Study ID	CYCLETTEL-FAD	(101-108)	Resp. No.	(109-117)
Interviewer No.		(121-124)	Interview Length	(125-128)
No. Of Queries		(129-130)	Reference No.	(131-132)

NAME OF RESPONDENT: Mr./Mrs. _____ SURNAME _____

Q3a	Date of Interview [dd/mm/yy] Please record using the short date format (dd/mm/yy). For example, if the date is 21 December 2008, record as 211208			
Q3b	RECORD TIME INTERVIEW STARTED / ENDED Please record using 24-hour format. For example, if the time is 2:47pm, record as 1447			
Q3c	Time Started (24-hour format) Time Ended (24-hour format)			
(R1)	INTERVIEW DETAILS	Q3a	Q3b	Q3c
		Date of Interview [dd/mm/yy]	Time Started (24-hour format)	Time Ended (24-hour format)
		(224-229)	(230-233)	(234-237)

GO- Scrutiny Log

Q6	ACTION TAKEN TO RECTIFY SCRUTINY ERRORS [SA]	Code (334)
	No DA Errors	1
	Corrected by GO (without consultation with CS)	2
	Corrected by GO in Consultation with CS	3
	Corrected at DA end (eg. missing answers, missing back translation etc.)	4
	Questionnaire not usable; sent back to Field	5

DATA SUPPLIER DECLARATION

I declare that the respondent , whose name and address appear above, was unknown to me until the interview. I confirm that, before returning this questionnaire, I have checked that it was carried out in accordance with the MRSI Code of conduct - the Market Research Professional Code of conduct for this country, and instructions supplied to me for this study. I understand that the information given to me during the interview must be kept confidential.

SIGNED _____ DATE _____

Good morning/afternoon, My name is and I work for ACNielsen, an independent market research company.

Q6	CLIENT'S IDENTIFICATION CODE (of wife)	(351-354)

Q7	Mobile phone number of wife								
(R1) Mobile phone number of wife	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	(355-364)

Q8										(365-372)
(R1)	<input type="text"/>									

Q9	First Interview Attempt - Date								
First Interview Attempt - Date (DD-MM-	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
(R1) YYYY)									(373-380)

Q10	Options are mutually exclusive									
	<u>Self code</u>									
	Result of first interview attempt[SA]									
	Available to be interviewed.....									1
	No answer (either did not pick up or phone is switched off).....									2
	Inconvenient time(Note the convenient time).....									3
	Number no longer in service									4
										Route
										Code (418)

Q11	Second Interview Attempt - Date									
Second Interview Attempt - Date (DD-MM-	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
(R1) YYYY)										(419-426)

Q12	Options are mutually exclusive									
	<u>Self code</u>									
	Result of second interview attempt[SA]									
	Available to be interviewed.....									1
	No answer(either did not pick up or phone is switched off).....									2
	Inconvenient time(Note the convenient time).....									3
	Number no longer in service									4
										Route
										Code (427)

Q13	Third Interview Attempt - Date									
Third Interview Attempt - Date (DD-MM-	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
(R1) YYYY)										(428-435)

Q14	Options are mutually exclusive									
	<u>Self code</u>									
	Result of third interview attempt[SA]									
	Available to be interviewed.....									1
	No answer either did not pick up or phone is switched off).....									2
	Inconvenient time(Note the convenient time).....									3
	Number no longer in service									4
										Route
										Code (436)

Part 1: CycleTel Use

Interviewer to read out: I'd like to ask you about how you and your wife used CycleTel to prevent pregnancy. CycleTel is the service that sent text messages to your wife's mobile phone over the past couple months to let her know which days she could get pregnant.

Q15	Select all that apply									
	SHOW CARD									
	When your wife was using CycleTel, how did she let you know which days she could get pregnant? [MA]									
	Told you (verbal communication)									01
										Route
										Code (437)

Showed you text messages	02	
Forwarded you the text messages	03	
CycleTel sent me unsafe alerts	04	
Didn't share any info	05	
Other (specify)	06	

Q16	Options are mutually exclusive. Did you know that there is an option for you to receive your wife's unsafe day SMS alerts on your mobile phone ? [SA]	Code (447)	Route
	Yes.....	1	
	No	2	

Q17	Programmer's instruction: Askonly those coding 1 in Q16 Options are mutually exclusive Did you sign up to receive the unsafe day alerts?[SA]	Code (448)	Route
	Yes.....	1	
	No	2	

Q18	Programmer's instruction: Askonly those answering Q17 Why or why not? _____ _____	(449-466)	
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Q19	Select all that apply Interviewer to read out options While using CycleTel how did you and your wife usually handle the unsafe days?[MA]	Code (467)	Route
	Abstained from sex.....	01	
	Used a condom	02	
	Both	03	
	Other	04	

Q20	Options are mutually exclusive (Interviewer's instruction: Explain what unprotected sex is if necessary) In the past month, did you and your wife have unprotected sex on any of the unsafe days?[SA]	Code (477)	Route
	Yes.....	1	
	No	2	

Q21	Programmer's instruction: Askonly those coding 1 in Q20 If so, why? _____ _____	(478-532)	
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Q22	Options are mutually exclusive. While your wife was using CycleTel, were you ever confused about knowing which days your wife could get pregnant?[SA]	Code (533)	Route
	Yes.....	1	
	No	2	

Q23	Why do you say that? _____ _____	(534-551)	
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Q24	Options are mutually exclusive Did you have any other problems with CycleTel in the past month?[SA] Yes..... No	Code (552) 1 2	Route
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Q25 **Programmer's instruction: Ask only those coding 1 in Q24**
What problems did you have?

(553-570)

Part 2: Satisfaction with CycleTel

Interviewer to read out: Now I would like to ask you about how you feel about CycleTel as a way to prevent pregnancy.

Q26	Select all that apply probeAs a family planning tool, what do you like most about CycleTel?[MA] It is low-cost/free..... Doesn't affect health No side effects..... My wife likes it Religious/moral reasons It is easy to use..... It is effective..... Convenient Other (Specify)	Code (571) 01 02 03 04 05 06 07 08 09	Route
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Q27	Select all that apply Probe As a family planning tool, what do you like least about CycleTel? [MA] Need to abstain during fertile days..... Need to use condoms on fertile days Difficulty sending/receiving text messages..... Concern about getting pregnant..... Nothing..... Other (Specify)	Code (618) 01 02 03 04 05 06	Route
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Q28	Select all that apply <u>SHOW CARD</u> Interviewer to read out: We just spoke about your experience using CycleTel as a family planning method with your wife. Now I would like to ask you some questions about CycleTel as a mobile health service. What are some of the features of the CycleTel service that you like most? [MA] Easy to use..... It maintains my privacy Timely reminders Messages came when expected Right amount of messages..... Accessible helpline Frequency features..... Other (Specify)	Code (628) 01 02 03 04 05 06 07 08	Route
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Q29	Select all that apply <u>SHOW CARD</u> What are some of the features of the CycleTel service that you like least? [MA] Too many messages Messages were not clear.....	Code (638) 01 02	Route
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Instructions were not clear	03	
Difficult to send messages	04	
Too few messages	05	
Nothing.....	06	
Other (Specify)	07	

Q30 *Programmer's instruction: Provide a text box to capture others (please specify)*

Interviewer to read out optins

For some couples, using CycleTel can influence the couple's relationship. Other couples do not see a change. Of the following areas, please indicate if you have noticed a change for the better, worse or not at all.[SA]

PROBE for other changes in the relationship

	Better	Worse	No Change	
(R1) Communication	1	2	3	(648)
(R2) Respect for each other	1	2	3	(649)
(R3) Improved sex life	1	2	3	(650)
(R4) Others (Please specify)	1	2	3	(651)

Q31 *Options are mutually exclusive*

SHOWCARD

In general, how satisfied are you with CycleTel as a way to prevent pregnancy?
[SA]

Not at all satisfied	1
Not so satisfied	2
Neither satisfied nor dissatisfied.....	3
Somewhat satisfied	4
Very satisfied	5

Q32 *Options are mutually exclusive*

SHOW CARD

How confident are you that using CycleTel will help you prevent pregnancy? [SA]

Not at all confident.....	1
Not so confident.....	2
Somewhat confident	3
Very much confident.....	4

Q33 *Options are mutually exclusive*

Would you recommend CycleTel to a family member or friend who wanted to prevent pregnancy?[SA]

Yes.....	1
No	2

Q34 Why do you say that?

(820-837)

Part 3: Continuation & Marketing

Interviewer to read out: Before we continue, I wanted to explain that after today, your wife and you are still eligible to continue using CycleTel if you choose to do so. The CycleTel service is similar to other paid services offered on your mobile phone, such as cricket alerts, missed call alert services, etc., but will be offered free of cost to you. You would only have to bear the cost of outgoing SMS and the airtime for the calls to the helpline, if any. Now I have a few final questions:

Q35 *Options are mutually exclusive*

Would you and your wife like to continue using CycleTel/ start using CycleTel again (whichever applicable depending on the reason for exit either used CycleTel for 2 months or exited voluntarily)?[SA]

Yes.....	1	
No	2	

Q36	Programmer's instruction: Ask only those coding 2 in Q35 Select all that apply SHOW CARD If not, why not? [MA] Prefer another method..... Opposes use of the Method	Code (839)	Route
	If not, why not? [MA]	1	
	Prefer another method.....	2	
	Opposes use of the Method	3	
	Hard to use	4	
	Ineffective/Fear of pregnancy.....	5	
	Other		

Q37	Programmer's instruction: Ask only those coding 1 in Q35 Would you want to receive SMS alerts in your cell phone on your wife's unsafe days? [SA] Yes..... No	Code (840)	Route
	Yes.....	1	
	No	2	

Q38	ASK ALL Options are mutually exclusive <i>(Tell them that this is only for the purpose of research and has no relation to the free service that they would receive if they chose to continue using CycleTel)</i> Would you be willing to pay for CycleTel (aside from the normal cost of sending and receiving text messages)? [SA] Yes..... No	Code (841)	Route
	Yes.....	1	
	No	2	
	Can't say.....	3	

Q39	Programmer's instruction: Ask only those coding 1 in Q38 If so, how much would you be willing to pay per month? (R1) Rs.				(842-844)
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Q40	Programmer's instruction: Ask only those coding 1 in Q38 Select all that apply SHOW CARD How would you want to pay for the services?[MA] Monthly deduction from phone	Code (845)	Route
	Monthly deduction from phone	1	
	Recharge (coupons/mobile recharge)	2	
	Annual subscription fee	3	
	Other (specify)	4	

Q41	ASK ALL What do you think would be the most effective way to tell people about CycleTel? <i>PROBE How would you advertise this application? Where would you expect to hear about it? For example, via SMS from a friend or your service provider? On a billboard? In a magazine? From your doctor?</i> _____ _____	(846-863)
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Q42	ASK ALL Interviewer's instruction: Write down the question Do you have any questions about CycleTel? _____ _____	(864-918)
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END INTERVIEW AND THANK PARTICIPANT

Talking Script: Thank you for showing your interest in us. I would like to tell you that for all your queries, you can call on the toll free call centre number provided to you. (male counsellors also available on the helpline to assist you)