

REPORT

Assessing the Competency and Acceptability of Community Health Worker Provision of Standard Days Method[®] in Family Planning Services in Gisagara District, Rwanda

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This study assesses the competency and acceptability of community-based provision of Standard Days Method[®] (SDM) to first-time users in Rwanda. The national strategy equips community health workers (CHWs) to resupply pills, injectables and condoms to existing clients. With the aim of expanding access, SDM provision to first-time users was added to the method mix in Gisagara district and assessed with a 12 month prospective, mixed methods study. Thirty percent of SDM clients had never used a method of family planning and 58 percent had not been using a method for at least three months. Eighty-seven percent of CHWs correctly screened clients to use SDM and 92 percent accurately explained how to use CycleBeads to prevent pregnancy. After being counseled by the CHWs, 89 percent of clients reported knowledge of all key steps required in using SDM to prevent pregnancy. Nearly all SDM clients (99 percent) believed that CHWs were able to counsel them adequately. These results suggest that CHWs were able to offer SDM as part of their family planning responsibilities, and the study adds to the evidence on the role of CHWs in expanding contraceptive access and choice.

After successful pilot introduction studies in Rwanda, a new method of family planning—the Standard Days Method[®] (SDM)—was successfully scaled up through the national family planning program (Igras et al. 2014; Lundgren et al. 2012; Blair et al. 2007; Rosen, Winfrey, and Adesina 2013). The SDM is a simple fertility awareness method of family planning that identifies the days in the menstrual cycle when a woman

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can get pregnant if she has unprotected sex. CycleBeads, a color-coded string of beads, helps women track the days of their cycles when they are most likely to get pregnant and avoid unprotected sex during these days. The method works best for women with cycles that usually range from 26 to 32 days. Over half of women meet this criterion. The U.S. Agency for International Development and the World Health Organization have globally recognized the method as a modern, evidence-based contraceptive practice (Malarcher et al. 2016; Festin et al. 2016), and it is currently offered in more than 30 countries. An efficacy study found a failure rate for SDM of 5 per 100 woman-years when used correctly. The failure rate during typical use is 12 per 100 woman-years (Arévalo, Jennings, and Sinai 2002; Sinai, Lundgren, and Gribble 2012).

Expanding family planning options has been shown to increase contraceptive use, as a wider choice of methods improves the ability to meet women's and couples' needs (Ross and Stover 2013). SDM has been introduced and assessed in different facility and community-based service delivery settings for over 15 years (Gribble et al. 2008; Wright, Iqteit, and Hardee 2015). A number of studies have demonstrated an overall increase in contraceptive prevalence rates where SDM has been made available, including in Rwanda (Lundgren et al. 2012; Blair et al. 2007; Gribble et al. 2008; Arévalo et al. 2010). Adding SDM to the method mix can bring new users to modern family planning, particularly those who never used a method or used a traditional method (Lundgren et al. 2012; Lundgren et al. 2005; Gribble et al. 2008).

By 2012, Rwanda's Ministry of Health achieved nationwide coverage of SDM in health facilities and had integrated the method into national norms, guidelines and systems (IRH 2013a, 2013b). As the dedicated scale-up phase for SDM was coming to a close in 2012, the Ministry of Health began implementing a national strategy for community-based provision of family planning which was scaled-up to all districts by 2016. Although SDM was included in Rwanda's National Implementation Guide for Community-based Family Planning Services, guidance at the policy level had not translated into delivery of the method at the community level. This study generates evidence on the competency and acceptability of using CHWs to offer SDM to first-time users of the method in Gisagara district, Rwanda.

PRIOR RESEARCH ON CHW DELIVERY OF FAMILY PLANNING

The integration of CHWs into the health system to provide family planning services has been identified as a high impact practice that addresses geographic, financial, and social barriers to family planning use (USAID 2015). Evaluations of community-based provision in numerous contexts have found strong evidence of programmatic benefits, including increased contraceptive uptake (USAID 2015; Perry, Zulliger, and Rogers 2014; Stoebenau and Valente 2003; Huber, Saeedi, and Samadi 2010; Hoke et al. 2011; Arrowsmith et al. 2012), reductions in fertility rates (Phillips, Bawah, and Binka 2006), maternal mortality (Perry, Zulliger, and Rogers 2014), and the ability to attract new and different types of family planning users (Prata et al. 2011). Clients benefit from cost and time savings by receiving services in their community (Simba et al. 2011; Shelus et al. 2015), and generally report high levels of satisfaction with their health worker (Stanback, Mbonye, and Bekiita 2007; Lebetkin et al. 2014; Hoke et al.

2011; Charyeva et al. 2015; Prata et al. 2011). CHWs and other community agents have been shown to be capable of offering a variety of methods including pills (Gallo et al. 2013; Perry, Zulliger, and Rogers 2014) injectables (Huber, Saeedi, and Samadi 2010; Lebetkin et al. 2014; Stanback, Mbonye, and Bekiita 2007), emergency contraception (Chin-Quee, Stanback, and Graham 2016; Khan, Hossain, and Rahman 2004), implants (Charyeva et al. 2015), and Fertility Awareness Methods such as the Lactational Amenorrhea Method (IRH 2008; Sebastian et al. 2012) and SDM (Johri, Panwar, and Lundgren 2005; Toth 2011; IRH 2003). Fertility Awareness Methods such as SDM are well-suited to be offered by CHWs because they are simple to learn and use and do not have medical contraindications that require screening by a professional healthcare provider. Screening for SDM only requires establishing menstrual cycle regularity as well as the user's ability to manage fertile days.

METHODS

In 2015, the Ministry of Health of Rwanda and the Institute for Reproductive Health tested the integration of SDM into family planning services offered by CHWs in Gisagara district, Rwanda. Prior to this, first-time family planning users, including those interested in SDM, were referred to the health center for counseling and contraceptive supplies. In Gisagara, 1,048 CHWs from fourteen health center sites received training in family planning using the national curriculum. Two CHWs from each village were trained. Of these 1,048 CHWs, 558 from seven sites in Gisagara district were selected to receive additional training in the adapted family planning module that included provision of SDM services to new users along with referrals for other methods. A mixed methods study was conducted from July 2015 to June 2016 in these seven sites to evaluate the competency and acceptability of using CHWs to offer SDM to new users, along with distribution or resupplies of pills, injectables and condoms. The year-long research study examined the integration of SDM into Rwanda's community-based provision strategy across the seven sites to provide a basis for decision-making on potential expansion to all districts.

The study sites were Agahabwa, Gishubi, Kibayi, Kibilizi, Kigembe, Musha, and Save health centers. Data was triangulated across multiple sources and data collection methods. The competency of CHWs in counseling new users on SDM was assessed. Quantitative interviews were conducted with CHWs and new SDM users who had received family planning counseling services from a CHW. Qualitative interviews were conducted with CHW supervisors and stakeholders at the district and central level.

A stratified sampling process by health center staff was used to randomly select 160 CHWs to enroll in the study. This sample size was calculated based on an estimate of an 80 percent competence rate (competency scores of 75 percent or greater) from previous research. With a sampling frame of 558 trained CHWs distributed proportionately across villages, a sample of 150 CHWs permitted 95 percent confidence that the true proportion of CHWs with a satisfactory competence score would be between 74.5 percent and 85.5 percent. The sample size was rounded up to 160 to account for refusals and attrition.

The competency test, called the Knowledge Improvement Tool, was conducted three months after training. The test consisted of observing a simulated counseling session with

CHWs. Data collectors used a checklist to record key SDM counseling points covered by the CHW during the simulated counseling session: (1) screening for method eligibility; (2) teaching clients how the method works to prevent pregnancy using CycleBeads; and (3) supporting the couple's use of the method related to managing fertile days and when to return to the provider. CHW competency was scored based on whether each covered all counseling points correctly. The test was developed to monitor SDM counseling during the method's efficacy trial and has been used with scale-up efforts in multiple countries to identify needed improvements in method counseling (IRH 2013a). The tool has been streamlined and refined over time and is a useful way to measure providers' ability to cover the SDM counseling's essential points. Seven months post-training, a structured interview was conducted with the same CHWs to learn about their experience counseling SDM clients as well as their attitudes towards and motivation to continue SDM provision at the community level.

Structured interviews were conducted with 210 clients who accepted SDM as a method of family planning from the CHW. Clients were followed-up between one and three months after method acceptance on a rolling basis. Interviews consisted of an assessment of correct use of SDM verified against an index that included: (1) checking if the woman's cycles are within-range to still be eligible to use the method; (2) whether the woman understands how to use CycleBeads to track the menstrual cycle; and (3) managing fertile days as a couple. Interview questions explored perspectives on the acceptability of CHWs providing SDM services to first-time users, CHW performance, and the extent of male partner involvement in method use. Clients who discontinued SDM use by the time of their interview were asked about the reasons for discontinuation.

Key informant interviews were conducted with stakeholders and supervisors approximately 10 months post-training. Sixteen stakeholders (13 district-level and 3 central-level) were purposively selected for in-depth interviews. Their roles included hospital directors, CHW and family planning supervisors at the district hospital level, and heads of health centers. Interviews explored perceived advantages and disadvantages of integrating SDM counseling for new users into the community-based provision package, potential implications of this approach for district level sub-systems, and recommendations to expand the program. Interviews were also conducted with 14 supervisors, one overseeing CHWs and one overseeing family planning from each of the seven study sites. The interview guide explored their perspectives on the acceptability of CHWs providing SDM services to first-time users, CHW performance, and supervisory responsibilities. All interviews were audio-recorded, transcribed and translated into English, if necessary.

To assess CHW competency in offering SDM services to new users, data was analyzed from CHW competency tests and client assessments of SDM use, respectively, and summarized in descriptive statistics. To assess acceptability of offering SDM to new users through CHWs, content analysis was performed on qualitative data from in-depth interviews with stakeholders and supervisors. Emerging patterns from these data were triangulated with relevant data from interviews with CHWs and clients regarding the perceived advantages and disadvantages of the provision of SDM by CHWs.

The study was approved by the Georgetown University Institutional Review Board and the Rwanda National Ethics Committee. Written informed consent was obtained from all study participants prior to data collection.

TABLE 1 CHW competency in offering SDM

SDM counseling aspect	Key counseling points	Percent of CHWs who addressed all key counseling points (N=156)
Method eligibility	<ul style="list-style-type: none"> Regular monthly periods, about a month apart Able to abstain or use a condom on days when pregnancy is possible 	86.5
Correct method use	<ul style="list-style-type: none"> Move ring to the red bead on the first day of menstruation, continue to move the ring one bead every day Pregnancy unlikely when ring is on a brown bead Use a condom or do not have sex when ring is on any white bead, as these are fertile days When menstruation starts again, move ring to red bead to start over. 	92.3
Monitoring cycle length	<ul style="list-style-type: none"> If period comes before the dark brown bead, or does not start after reaching last brown bead, cycle is not within range 	83.3
Supporting method use by the couple	<ul style="list-style-type: none"> Talk to partner about CycleBeads and how to manage fertile days Return to provider if unprotected sex occurred on a white bead day, or period is early/ late 	74.4

TABLE 2 Client knowledge of how to use SDM and correct application of that knowledge

	Percent of clients who reported correct use of SDM (N=206)
Knowledge of how to use CycleBeads to prevent pregnancy^a	89.3
Move ring to red bead when period starts.	97.6
Move ring to next bead every day.	96.6
Use condoms or abstain when ring is on white beads to prevent pregnancy.	100.0
Brown beads are safe days when pregnancy is unlikely.	97.6
When period starts again move ring to red bead to begin again.	92.7
Correct management of fertile days^b	98.5
Abstain from sex	41.7
Condom	34.5
Abstain or use a condom	22.3
Withdrawal	1.5
Cycles are within range to use CycleBeads^c	95.1
Period has not started before the darker brown bead	97.1
Period has not started after the last brown bead	98.1

^a89.3 indicates the percent of clients who were able to correctly state all items concerning how to use CycleBeads to prevent pregnancy.

^b98.5 indicates the percent of clients who reported using abstinence or condoms to manage fertile days. Use of withdrawal during fertile days is not considered correct use of SDM.

^c95.1 indicates the percent of clients who were able to correctly state both conditions required to ensure cycles are within range to use CycleBeads.

RESULTS

CHW Competency in Offering SDM to New Users

The results from the competency test of CHW's simulated counseling on SDM show high scores. The proportion of CHWs who covered all key counseling points is shown in Table 1. Eighty seven percent of CHWs correctly completed screening for SDM, 83 and 92 percent explained correct method use, and 74 percent accurately counseled couples on managing fertile days and when to return to the provider.

Clients who learned to use SDM from a CHW could accurately describe how to use the method and reported proper management of fertile days (Table 2). Eighty-nine percent of clients explained how to use CycleBeads to prevent pregnancy by mentioning all key steps in

doing so, and 99 percent of clients reported correctly managing fertile days either through abstinence and condom use. Ninety-five percent of women had menstrual cycles within the acceptable range for SDM. All those with irregular cycles returned to their provider to switch to another method (results not shown in table).

Supervisors and stakeholders believed CHWs were able to effectively offer SDM to clients in their communities. Supervisors were asked whether all, many, some, or none of the CHWs were able to explain to clients how to use different methods of family planning, based on their observations. All supervisors (n=14) believed that all CHWs were able to explain to clients how to use SDM.

Stakeholder Views on CHW Capabilities

Supervisors were confident in the abilities of the CHWs based on the quality of training, no reports of method failure resulting in pregnancies, and interactions with clients.

There is one mother who approached me and told me that she is using CycleBeads that a CHW gave her. And then she asked me: 'Is it right what she told me? Won't I get pregnant? I am afraid.' Then, I asked her to tell me what CHW told her. She told me the following questions that were asked by a CHW: Do you get a period every month? Does your husband accept to abstain during fertile days or use condoms? She told me that a CHW gave her condoms. After telling me all that, I realized that what the CHW told her is correct, and is going to help her, so I reassured her.—CHW supervisor

One stakeholder who initially expressed doubt in the abilities of the CHWs to offer family planning was convinced they were capable after the training.

At the beginning, everyone, including myself and the CHWs themselves, thought that CHWs would not do this job well. After they were trained, everything looked very different. Indeed they have the capacity for counseling family planning clients.—Head of family planning at health center

Acceptability of CHWs Offering SDM to New Users

The acceptability of CHWs offering SDM to new users was assessed among clients, CHWs, supervisors, and stakeholders. Nearly all clients (99 percent) believed that CHWs were able to counsel them on how to use CycleBeads and 98 percent reported that they would recommend learning to use CycleBeads from a CHW to their friends and relatives. Clients expressed different advantages to learning how to use CycleBeads from the CHW rather than going to the health center (Table 3). The most common reasons cited by women clients were geographic access (89 percent), followed by competence (53 percent), convenience (48 percent) and availability (45 percent). CHWs cited the main advantages of the community-based provision strategy as geographic access (98 percent), availability (64 percent), convenience (61 percent), and trust (55 percent).

Nearly all CHWs (95 percent) reported no disadvantages to SDM provision and 83 percent believed it was very important for them to continue offering the method directly to new users in the community (results not shown). A small share of CHWs (5 percent) mentioned

TABLE 3 Perceived advantages of the provision of SDM by CHWs

Type of advantage	Percent of clients who perceived each advantage (N=210)	Percent of CHWs who perceived each advantage (N=157)
Geographic access	88.6	98.1
Availability	44.8	63.7
Competence	53.3	27.4
Convenience	47.6	61.1
Cost savings	11.4	13.4
Confidentiality	3.8	15.3
Respect	3.8	30.6
Trust	17.1	55.4
Relevance	2.9	36.3

disadvantages that included inconvenience related to time allocation for counseling and increased workload without payment.

Supervisors and stakeholders had positive opinions of SDM introduction at the community level and saw many benefits of the community-based provision strategy, as the approach is in line with Rwanda's vision for development. All stakeholders interviewed reported that their institutions plan to continue offering SDM to new clients through CHWs. They felt that offering the method supported access to new clients through direct service provision and CHW follow-up in the community, and reduced the workloads of facility-based providers.

Respondents expressed a belief that CHWs were well-positioned to offer family planning, and particularly to counsel new SDM clients because they were able to devote more time to the task than healthcare providers. They were familiar with the challenges their clients face because they live in the same communities.

CHWs are smart people. They are able to counsel new clients on SDM. And it is particularly useful because they talk to their neighbors and to people that they live with. If you count the amount of time spent on a counseling session, you would find out that it is more than what a usual healthcare provider would be able to give; which is indeed very beneficial.—Family planning supervisor at hospital level

With CHWs offering family planning, there has been increased access and availability for clients who can now receive services in their villages, without traveling long distances to the health centers to get refills of condoms, pills and injectables, or in the case of new users of SDM, to obtain CycleBeads. This makes it easier for clients to consult with CHWs in the event of any problems or for method continuation, and it has reduced client loss-to-follow-up.

I like this approach very much because not only can those who want the services have them easily in their communities without going [a long distance], but also it has helped to reduce the number lost-to-follow up, as the CHW is near them, this means also that client follow up is made easier.—Head of health center

TABLE 4 Previous family planning use of SDM clients of CHWs

	Percent of clients
Family planning history	
New family planning user	30.0
Discontinued within the last month	0.5
Discontinued within the last 3 months	11.9
Discontinued within the last 6 months	11.4
Discontinued with the last year	13.8
Discontinued more than a year ago	32.4
	N=210
Previous family planning methods^a (Multiple responses possible)	
Condom	11.6
Pill	42.4
Injectable	76.9
Implant	13.6
IUD	2.7
Withdrawal	6.1
LAM	0.7
	N=147
Reason for discontinuation^b	
Side effects or health concerns	79.6
Wanted more effective method	24.5
Inconvenient to use	17.7
Became pregnant while using	8.5
Wanted to become pregnant	3.4
Husband/partner disapproval	2
Getting pregnant is up to God	1.4
	N=147

^a Among clients who had not used a family planning method in at least the past 3 months.

^b Among clients who had previously used a family planning method.

TABLE 5 Male partner involvement in the use of CycleBeads as reported by clients

	Percent of clients reporting each type of partner involvement (N=206)
Reminds to move the ring	80.5
Helps move the ring	41.0
Uses condoms on fertile days	47.6
Abstains on fertile days	28.1
Asks spouse if they can have sex	26.2
Marks first day of wife's cycle on the calendar	3.3
Uses withdrawal on fertile days	1.4
Buys condoms	1.0

Programmatic Benefits of CHW Provision of SDM

The provision of SDM by CHWs in Gisagara had programmatic benefits, primarily by creating new family planning users, encouraging those who had discontinued use to resume using a method, and involving men in family planning. Thirty percent of interviewed clients were new family planning users (Table 4). Among those who had previously used a method, 58 percent (11.4+13.8+32.4) had not been using any method for at least three months. For users who had not used a family planning method in the past three months or more, injectables were the most common method used previously (77 percent), followed by contraceptive pills (42 percent). Of those who had used family planning before, the most common reasons for discontinuation were side effects or health concerns (80 percent).

Client reports on the extent of male partner involvement in SDM use are shown in Table 5. Male partners cooperated in the use of CycleBeads primarily through reminders to move

the ring (81 percent), the use of condoms on fertile days (48 percent) or helping with moving the ring (41 percent). Ninety-one percent of clients had their partners present when the CHW provided counseling, and all clients reported that their partner cooperated in the use of CycleBeads in at least one way (results not shown in table).

DISCUSSION

The results from this study demonstrate that CHWs in the seven study sites in Gisagara district of Rwanda were competent in offering SDM when trained using the adapted training module with SDM included. Eighty-nine percent of clients correctly described how to use the method to prevent pregnancy and 99 percent reported proper management of fertile days through either condoms or abstinence, indicating that they received appropriate counseling on the method from their CHW. Furthermore, 95 percent of SDM users had menstrual cycles within the required range, and all users who identified irregular cycles during method use returned to their provider as they had been instructed. The CHWs appropriately screened clients during counseling and correctly instructed them on how to monitor their cycle length for SDM to continue to be effective.

The results also show that clients and stakeholders felt that using CHWs to provide SDM to first-time users of the method was acceptable. Women perceived several advantages to using SDM. The advantages most commonly cited by both clients and CHWs were geographic access, availability, and convenience. A small share of CHWs (5 percent) mentioned disadvantages that included inconvenience related to time allocation for counseling and increased workload without payment. Counseling new users on SDM requires more time than resupplying condoms, pills and injectables and 75 percent of clients reported that the CHW spent more than 30 minutes counseling them on SDM. Therefore, it is reasonable that some CHWs identified time constraints as a disadvantage.

The results of this study reflect what previous research has established: a considerable proportion of SDM users were women who had not used a modern family planning method in the past three months or longer (Wright, Iqteit, and Hardee 2015). The main reasons given for discontinuation of methods in this study were side effects or health concerns. SDM directly addresses these concerns as it is a natural method. By offering SDM, programs can reach those who are not currently using a method and bring new users to family planning.

All women using SDM reported that male partners were involved in the use of the method in at least one way and 91 percent reported that their partner was present during method counseling. While men are often left out of family planning services, they exert a strong influence over their partner's family planning decisions (Orji et al. 2007; Bankole and Singh 1998). The high male involvement in SDM counseling may be because CHWs offer services close to the home, making it feasible and even preferred for the couple to be counseled together. Many CHWs are male which may have contributed to the acceptability and comfort level among male partners.

Stakeholders and supervisors had some general concerns about the community-based provision program which could affect provision of SDM. These were primarily related to the workload of CHWs, frequent turnover, supervision, and reporting. Study sites experienced

turnover of CHWs due to factors such as illness, job opportunities and relocation. As CHWs leave their position, a replacement strategy should be in place to equip new CHWs to offer the needed services, including SDM counseling. CHWs seemed to struggle with reporting as they frequently submitted reports with mistakes. There were several forms required for family planning alone, and supportive supervision to address these gaps was inconsistent. Weak reporting has implications for accurate recording of demand for methods, including SDM, which could affect program management. Supervisors lacked the time and resources to visit CHWs in the field, yet supervision is critical especially when CHWs are offering methods for the first time, particularly SDM which requires counseling new users. While stakeholders expressed concern about CHWs' workload, it was only mentioned by a small number of CHWs themselves during interviews. Previous studies have indicated that CHWs found the broad scope of activities expected of them overwhelming while other studies have shown that CHWs perceived the addition of distinct tasks such as provision of injectable contraceptives to be manageable (Condo et al. 2014; Chin-Quee et al. 2016). There is a need for additional research on workload from the perspective of the CHW.

Despite the challenges mentioned above, CHWs, clients, supervisors, and stakeholders noted many advantages to community-based family planning and SDM provision in Gisagara district. These included increased access (geographic access and convenience), appropriate SDM counseling, improved client follow-up, and a reduction in workload for facility-based providers.

LIMITATIONS

The research team attempted to learn from data that could feasibly be collected during the course of the study. The primary measures used to assess provider competence, namely the Knowledge Improvement Tool and the client follow-up tool, were not subjected to reliability checks during the study and therefore could have been influenced by interviewer bias. In the surveys with CHWs and clients, we relied on self-reported data, which may be subject to social desirability bias. We tried to minimize biases by training data collectors on proper survey techniques and ensuring respondents of data confidentiality. We also triangulated data from the different data sources to provide a fuller picture of the feasibility of using CHWs to counsel new users on SDM.

CONCLUSION

CHWs are essential service providers within family planning programs around the world. Recognition of their effectiveness has generated enthusiasm about extending access to injectables and implants at the community level through CHWs. Within the renewed interest in community-based family planning programs, it is important to offer couples a wide range of methods. Many women with unmet need for family planning may be interested in methods not readily available in their community. For some, fertility awareness methods like the SDM can be an acceptable alternative to other modern methods. This assessment of CHW performance in Rwanda provides evidence of the competency and acceptability of using

CHWs to provide SDM to new users within communities after they were trained using an adapted family planning module. The competency of CHWs in offering SDM, coupled with client acceptability, supports the provision of SDM by CHWs in additional districts. These results add important evidence regarding the role of CHWs in expanding family planning access and choice and further support the community-based provision of family planning.

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