

Evidence to Action for Strengthened Family Planning
and Reproductive Health Services
for Women and Girls Project



Assessing the Effects of mCenas! SMS Education on Knowledge, Attitudes, and Self-Efficacy Related to Contraception Among Youth in Mozambique

March 2015



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About E2A

The Evidence to Action Project (E2A) is USAID's global flagship for strengthening family planning and reproductive health service delivery. The project aims to address the reproductive healthcare needs of girls, women, and underserved communities around the world by increasing support, building evidence, and leading the scale-up of best practices that improve family planning services. A five-year Cooperative Agreement awarded in September 2011, E2A is led by Pathfinder International in partnership with the African Population and Health Research Center, ExpandNet, Intrahealth International, Management Sciences for Health, and PATH.

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This publication was made possible through support provided by the Office of Population and Reproductive Health, Bureau for Global Health, U.S. Agency for International Development, under the terms of Award No. AID-OAA-A-11-00024. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development.

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Acronyms

CBO	Community-Based Organizations
DHS	Demographic and Health Survey
DFID	UK Department of International Development
EC	Emergency contraception
E2A	Evidence to Action for Strengthened Family Planning and Reproductive Health Services for Women and Girls
FP/RH	Family Planning and Reproductive Health
ESD/FPI	Extending Service Delivery - Family Planning Initiative
IUD	Intrauterine Device
LAM	Lactational Amenorrhea Method
M4RH	Mobile for Reproductive Health
mHealth	Mobile Health
MOH	Ministry of Health
SRH	Sexual and Reproductive Health
SMS	Short Message Service
STI	Sexually Transmitted Infection
USAID	United States Agency for International Development

Acknowledgement

This study was a joint activity between Pathfinder International and the Evidence to Action for Strengthened Family Planning and Reproductive Health Services for Women and Girls Project (E2A). Pathfinder International implemented the mCenas! initiative under the Extending Service Delivery/Family Planning Initiative project (funded by USAID) and E2A undertook the study that assessed the effects of mCenas on knowledge, attitude and self-efficacy related to contraception among the youth in Mozambique.

We would like to express our gratitude to USAID/Washington for providing the financial support to conduct this study and those at the USAID Mission in Mozambique for their guidance during the study. We are particularly grateful to Patricia MacDonald and Shannon Taylor (USAID/Washington) for their technical and management support at all stages of the evaluation and to Odete Paúnde (USAID/Mozambique) for their technical oversight. We are also grateful for the support of the former Director of E2A, Linda Casey.

We would like to thank all the fieldworkers who collected data for this evaluation. They worked very hard under difficult situations to obtain the required data and to meet deadlines. In this regard, our special appreciation goes to Verde Azul for the organization's role in recruiting and training field workers, supervising and coordinating data collection activities, developing data entry templates and entering data. We are also grateful to the *activistas* for their role in coordinating data collection activities and to the youth participants who provided valuable information required for the study.

Within Pathfinder International, both in Mozambique and the US, several individuals deserve special mention for their support at different stages of the study. Not only were they involved in the conceptualization of the study, they assisted in overseeing the implementation of the study and provided valuable input toward report writing. They are: Rita Badiani, Country Representative, Pathfinder/Mozambique, Marion McNabb, Callie Simon, Camille Collins Lovell and Laura Subramanian.

Within E2A, we would like to thank Carina Stover, who since joining E2A as the Project Director, has been supportive of the study. We would also like to thank the Deputy Project Director, Gwen Morgan, for her technical support at all stages of the study. We are very grateful to Papa Fall (Finance Director), Seda Yener (Senior Finance and Administrative Associate), and Raneem Kayed (Finance and Administrative Associate) for managing the contract to Verde Azul. Special thanks to Abdulmumin Saad, who since joining the E2A team as the Research and Metrics Advisor has worked with the study team to analyze data, prepare graphs, and commented on the initial draft of the report. We are very grateful to Laurel Lundstrom for her roles in pulling together the executive summary and for her editing and formatting support. We thank our former E2A colleague and a member of the study team, McKenzie Lamborne, for coordinating most of the field activities, including data collection.

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Suggested Citation:

Bamikale Feyisetan, Regina Benevides, Ana Jacinto, and Namuunda Mutombo, *Assessing the Effects of mCenas! SMS Education on Knowledge, Attitudes, and Self-Efficacy Related to Contraception in Mozambique* (Washington, DC: Evidence to Action Project, March 2015).

Executive Summary

Background

As in many other sub-Saharan African countries, those younger than 25 now comprise half of Mozambique's population. Early marriage and childbearing among this large youth population is common: in Mozambique, 38 percent of adolescents (15-19) have a child or are pregnant and the median age at first birth is 19.² Mozambique's youth have limited knowledge, skills, and services to protect themselves from unintended and early pregnancy, HIV, and other sexually transmitted infections. Misconceptions that impede contraceptive use are common, women and girls often lack the autonomy to make independent decisions about using contraceptives, and structural barriers such long distances to health facilities and commodity stock-outs are a reality for many.⁴ The majority of young women living in Mozambique do not use modern contraceptives. In 2011, 5.8 percent of young women aged 15-19 and 11.4 percent of females aged 20-24 were using a modern method—rates of contraceptive use that had actually declined since the previous Demographic and Health Survey was conducted in 2003.^{2,3}

As the proportion of young people in Mozambique has grown over the past decade so has their use of mobile phones. Mobile phone subscriptions in the country surged from 152,652 in 2001 to 12,401,290 in 2013.⁵ The use of mobile phones, and particularly SMS, is a growing mechanism for delivering health-education messages. However, there is a gap in evidence linking SMS to SRH outcomes, specifically knowledge and intentions to use contraception in a low-income context such as Mozambique.¹⁷⁻¹⁹

mCenas! Assessment

To fill this evidence gap, the Evidence to Action for Strengthened Family Planning and Reproductive Health Services for Women and Girls Project (E2A) assessed the use of a comprehensive text message program for youth, called mCenas!. mCenas! was implemented by Pathfinder International, with assistance from Dimagi, Inc., in Mozambique's Matola district of Maputo province and Inhambane City district of Inhambane province from September 2013 to June 2014. mCenas! was an activity of the Extending Service Delivery/Family Planning Initiative project funded by USAID. mCenas! targeted youth 15-24, with and without children, in an interactive two-way SMS system that engaged them with narrative and informational messages to increase their knowledge about contraceptive methods, dispel common myths around contraception, and address common barriers youth face regarding use of contraception. Youth received story messages three times a week for eight weeks and then contraceptive information messages three times a week for four weeks. Youth also had access to a menu of the frequently asked SRH questions and contraceptive method information messages, and were linked to a youth-friendly hotline (Alo Vida) managed by the Ministry of Health where they could get answers to questions about contraception and referrals to health facilities.

E2A undertook the study assessing mCenas! to generate evidence on whether delivering information on contraception via SMS is acceptable to youth 18-24 in Mozambique and could lead to improvement in their contraceptive knowledge, attitudes, and self-efficacy. The study also offers youth perspectives on barriers to accessing and utilizing SRH services. Data can be applied to improve future SRH programming for youth in Mozambique and beyond. Improved SRH programming for youth could have significant effects on the large youth population: stymieing unintended and early pregnancy by enabling young people to access contraceptive information and a broad range of methods, and empowering them to demand services that are respectful of their rights and unique needs.

Methodology

E2A developed open-ended and closed-ended survey questions based on the mCenas! SMS messages participants received. Data were collected mainly through face-to-face interviews. The number of

questions answered by each respondent depended upon their sex and whether or not they had children at the time of the survey. In addition, the endline questionnaire included a few questions to assess acceptability of the mCenas! intervention. The research questions were:

1. *Is using SMS an acceptable method of delivering SRH, including contraception information, to youth aged 18-24 in Mozambique?*
2. *Does the provision of information through SMS messaging (when integrated into a larger program that encompasses interpersonal communication with peer educators and small groups) improve knowledge of contraceptive methods and reduce misconceptions about contraception?*
3. *Does the provision of stories based on behavior change theory through SMS messaging (when integrated into a larger program that encompasses interpersonal communication with peer educators and small groups) lead to improvements in self-efficacy, outcome expectations, and attitudes related to contraceptive methods among youth in Mozambique?*

While 895 youth aged 18-24 were recruited for the study at baseline, only 504 of them could be reached at endline. Consequently, the study focuses on the 504 participants, the majority of whom were aged 20-24 (about 60 percent of males and females) and had never been married, but had had sex. Per the study's sampling design, about half of respondents had one or more children, while the other half had no children.

Study Limitations

Although integrating SMS into other existing community and facility level interventions was meant to maximize the effects of mCenas! the study design does not permit a comparison of an integrated mCenas! program with standalone mobile phone or community/facility level programs; by having only the integrated program, it was impossible to determine the relative contribution of the SMS intervention to any observed improvements in knowledge, attitude, and self-efficacy regarding contraception. All we can say is that the SMS intervention contributed to those observed improvements. In addition, the loss of youth during the endline survey makes it difficult to determine with any level of precision the effects of the intervention on contraceptive knowledge, attitude, and self-efficacy—we were not able to assess how those who could not be interviewed at the endline responded to the information they received on contraception during the intervention.

Key Findings

Knowledge about contraception: mCenas! contributed to an increase in the number of contraceptives the young participants knew about. While 74.4 percent of females with children and 59.9 percent of females without children had medium-high knowledge of three or more methods at baseline, 86.6 percent and 73.9 percent did respectively at endline. And while 33.5 percent of males with children and 30.9 percent of males without children had medium-high knowledge of three or more methods at baseline, 53.4 percent and 57.7 percent of them respectively had medium-high knowledge of three or more methods at endline.

Safety, ease of use, and effectiveness of contraceptive methods: At baseline, participants knew little about the safety of contraceptive methods. More females at baseline perceived the methods to be very safe, very easy to use, and very effective than males. However, perceptions on safety, ease of use, and effectiveness improved significantly among both males and females for multiple modern methods between baseline and endline. For instance, among female respondents, whether or not they have children, there were significant increases in the percentages that perceived that condoms, emergency contraception, implants, injectables, and the IUD are safe to use, and among males, the percentages that

perceived the combined oral pill, injectables, and IUD to be safe increased significantly between baseline and endline. Regarding ease of use, the percentages of female youth that perceived emergency contraception, implants, injectables, and the IUD to be very easy to use increased significantly, and among male youth, the percentages that perceived emergency contraception, implants, combined oral pills, injectables and the IUD to be very easy to use increased during the intervention. Although perceptions of the effectiveness of the methods were generally low, there were significant increases in the percentages of male and female youth that perceived emergency contraception, implants, combined oral pills, and the IUD to be very effective.

Ever use of contraception: The study shows statistically significant inter-survey increases only for combined oral pill and emergency contraception (only among females with children). This is not unexpected considering the short duration (three months) of the intervention.

Current use of contraception: Among female youth, current use increased significantly only for the male condom and combined oral pill, and these significant increases were observed only among those with children; among male youth, current use of a method increased significantly only for partner's use of combined oral pill. As with ever use, the statistically insignificant increases in current use should not be unexpected in view of the short duration of the intervention.

Intention to use a contraceptive method: Intention to use was examined separately for respondents who reported to be using a method and those who reported to not using a method at the time of the surveys. The interventions contributed to some increases in intention to use a method in the future. The study shows that: (i) Intention to use a contraceptive method during the twelve months following the surveys was high among male and female respondents, whether or not they had children or reported to be using or not using a method at the time of the surveys; (ii) There were significant increases in the intention to use a method during the year following the surveys among males without children who reported to be using a method at the time of the surveys, and, among females without children who reported to not using a method at the time of the surveys; (iii) Among males, the percentage reporting intention to use a method during the 12 months following the endline survey was higher among those who reported to be using a method at the time of the survey, whether or not they had children; among females, the percentages reporting intention to use a method in the twelve months following the endline survey did not differ by whether or not respondents were using a method at the time of the survey. Changes in intention to use specific methods were highlighted in the report.

Contraception attitudes, beliefs, and outcome expectations: Youth were better informed about contraception and its effects following exposure to the SMS interventions. For instance, during the mCenas! intervention, there were significant declines in the percentages of youth who hold the view that use of a contraceptive method will make it difficult to have children after stopping use and significant increases in the percentage of youth that agreed it was okay for a young married/unmarried woman to use other contraceptive methods besides condom. Furthermore, the percentage of youth who view contraception as a way to increase opportunities for further education increased significantly, though only among those without children.

Perceived self-efficacy: At both baseline and endline, self-efficacy was high for males and extremely low for females. While there was no task for which less than seven of ten male youth expressed confidence in their ability to perform/accomplish, there was not a single task in which up to one of ten female youth expressed confidence in their ability to perform/accomplish. While the SMS interventions could be said to have moderately enhanced the confidence of male youth to perform some tasks, the same cannot be said of female youth: the SMS intervention appears to have had no effect on their confidence to perform contraception-related tasks.

Potential barriers to contraceptive use: To determine potential barriers to contraceptive use, respondents were asked to agree/disagree with statements that reflect attitudes/conditions that either promote (facilitators) or discourage (barrier) contraceptive use. While agreement with facilitator indicating statements signify embracing attitudes/conditions that promote contraceptive use, agreement with barrier indicating statements signify embracing attitudes/conditions that hinder contraceptive use, mCenas! was implemented to increase agreement with facilitator indicating statements and increase disagreement with barrier indicating statements. At both baseline and endline, the overwhelming majority of respondents (in most cases more than 8 of 10) agreed with statements that reflect attitudes/conditions that promote contraceptive use and disagreed with statements that reflect attitudes/conditions that hinder contraceptive use.

Acceptability of mCenas!: The majority of participants were satisfied with the intervention. They felt comfortable sending and receiving SMS messages about SRH and expressed willingness to receive SMS messages on SRH in future. They were largely comfortable with the days and times of the week that they received the messages. More than half of the respondents said there were just enough messages and that they were satisfied with their length. Despite some challenges, including network failure and difficulties in sending messages, more than 90 percent of participants said they would be willing to pay for the same type of messages in the future.

Recommendations

- **Give mobile phone interventions sufficient time.** Disseminating contraception messages to youth via SMS has the potential to increase knowledge of contraception, reduce misconceptions, and improve attitudes about contraception among youth. To maximize the benefits of mobile phone interventions, they may need to be implemented over a relatively long period of time to give beneficiaries sufficient time to process and act on the information they receive. It usually takes time to translate knowledge to practice and three months may not be enough.
- **Consider focus on safety and effectiveness of methods.** Knowledge, specifically about the safety and effectiveness of contraceptive methods, was low among the youth in this study. In view of the fact that perceptions of the safety and effectiveness of contraceptive methods might inform the decision to use them, subsequent mHealth interventions may consider developing additional content/messages focused on safety and effectiveness of methods, potentially including comparative effectiveness of methods.
- **Address self-efficacy among female youth.** Self-efficacy about contraception was considerably low among female youth, and, unfortunately, mCenas! did not appear to improve the situation. Subsequent mobile phone interventions should devote significant effort to addressing self-efficacy among female youth by reviewing messages to ensure an emphasis on building confidence to seek and use contraception services, and by complementing mHealth with community activities, such as face-to-face communication with peers and peer educators, which can include role play and coaching. Also, there needs to be better understanding of the reasons for low self-efficacy for contraceptive use among young women, and where gender inequity is implicated, interventions should involve young men.
- **Design mHealth studies to permit an assessment of the relative contribution of the mobile phone application to improvements in knowledge, attitudes, and self-efficacy related to contraception.** mCenas! was an integrated program (use of mobile phone plus other community- and facility-level activities), making it difficult to assess the relative contribution of the mobile phone application to the observed increase in contraceptive knowledge and improvements in attitudes

towards contraception. A design that permits a comparison of an integrated program with a standalone program would have permitted a richer assessment of these elements.

- **Explore how interventions like mCenas! can be implemented and sustained in Mozambique.** The overwhelming majority of respondents expressed acceptance of mCenas!, implying that SRH messages delivered through this channel have high probability of reaching youth. As mobile phone ownership increases among youth, mHealth interventions might become an increasingly important channel to address SRH issues among youth in Mozambique.
- **Use stories delivered via SMS to reach young people with SRH content.** Findings from the assessment suggest that longer fictional narratives delivered via SMS are a feasible and acceptable way of reaching young people with SRH content. The use of realistic stories to complement informational messages may have contributed to young people's engagement with the intervention and the positive findings.

I. Background

I.1 Sexual and Reproductive Health Profile of Youth in Mozambique

Young people are particularly vulnerable and have limited power and sexual and reproductive health (SRH) knowledge, skills, and services to protect themselves from unintended or too early pregnancy, HIV/AIDS, and other poor SRH outcomes. Nearly half of the population of Mozambique is under the age of 25; 34% are 10-24 years old. With close to 40% of young women being married by the age of 18,¹ Mozambique has the seventh highest child marriage prevalence rate in the world. Early childbearing is common; 38% of adolescents (15-19) have a child or are pregnant and the median age at first birth is 19.²

Findings from the baseline study of the Extending Service Delivery/Family Planning Initiative (ESD/FPI) project conducted in July 2011 show that in the project's intervention areas, the proportion of young people (15-24) using a modern method of contraception at the time of the study was lower than that of older age cohorts. The Mozambique Demographic and Health Surveys (MDHS) of 2003 and 2011 indicate an inter-survey decline in the proportions of young women using modern methods of contraception. In 2003, 14.1% of female youth aged 15-19 and 16.9% of those aged 20-24 used modern methods of contraception—these rates were higher than the national average of 11.7% for all married women. However, in 2011, the proportion of young women aged 15-19 using modern method of contraception declined to 5.8% while that of female youth aged 20-24 using a modern method of contraception declined to 11.4%.^{2,3} While the proportion of female youth aged 20-24 using a modern method in 2011 equaled the national average of 11.4% for all married women, the proportion of female youth aged 15-19 using a modern method was significantly lower than the national average for married women. To reduce the high levels of adolescent pregnancy and childbirth in Mozambique, there is undoubtedly a need for concerted efforts to increase the access of young people to contraceptive information and methods, as well as increase their ability to demand services that are respectful of their rights and unique needs. The mCenas! intervention was meant to contribute to the efforts to fill the knowledge gap through provision of information on contraceptive methods.

In February 2013, Pathfinder International, with funding from the United Kingdom Department of International Development (DFID), conducted a study to examine the individual, community, facility, and structural barriers to institutional delivery and contraception services in Cabo Delgado, Zambezia, and Inhambane provinces in Mozambique.⁴ The study showed that despite improvements in the ability of women to access contraception services, there are still many supply- and demand-side barriers. The key findings on barriers affecting young women's access to contraception included the following:

- Many women, young and old, reported not knowing how to prevent a pregnancy, or were unaware of a full range of methods.
- Misconceptions persist, in particular the belief that contraception should be used only by women who already have many children in order to stop childbearing altogether, and not for younger women with few or no children.
- Still related to misconceptions, some community members fear that contraception (especially long-acting methods like IUD and implants) can cause physical harm to a woman and prevent her from having children in the future.
- Respondents reported that women often lack autonomy to make decisions about contraception without 'authorization' of a male partner, mother-in-law, or other family member, and that younger women may have even less autonomy to seek services.
- Other major barriers/challenges to contraceptive use or access to contraception are structural and include inadequate transportation, long distance to service delivery points, and stock-out of commodities.

These findings suggest that young women are still in need of basic information about the safety and effectiveness of contraception. The findings further suggest that information alone will not empower women to seek a method when desired, and that social pressures and gender norms must also be addressed. Finally, the study suggests that interventions to reduce demand-side barriers to knowledge must be accompanied by efforts to improve services themselves.

1.2 Mobile Phones and mHealth in Mozambique

The use of mobile phones has increased rapidly in Africa, with 64 per 100 population having a mobile cellular subscription as at 2013.⁵ As little as two decades ago, few people had access to mobile phones in Africa. In 1999, only 10 percent of the population, mostly in North Africa, had phone coverage (only Egypt, Morocco, Senegal and South Africa had coverage rates of over 40% at that time.)⁶ What has generally been accepted as the mobile phone revolution in Africa is relatively recent. The number of subscribers on the continent grew from 5.4 million in 2003 to 375 million in 2008.⁷ By 2005, demand for mobile phone subscriptions in the developing world began to exceed that of the developed world. By 2014, 78% of mobile-cellular subscriptions were in the developing world.⁸ In Mozambique, mobile phone subscriptions have also undergone an incredible surge since the government opened the telecommunications market—subscriptions increased from 152,652 in 2001 to 12,401,290 in 2013, and subscriptions per 100 inhabitants increased from 0.81 to 48.^{5,10} The majority of phones are prepaid models which users are required to register by name.¹¹ There are three mobile phone operators in Mozambique: mCel, Vodacom, and Movitel.

Rapid developments in the technology and use of mobile applications to advance health, both in developed and developing countries, are breathtaking. mHealth—the use of mobile applications to improve health—has been successfully integrated into public health and clinical care activities in many different countries.¹² Within Mozambique, there are approximately 22 mHealth interventions with funding from USAID, DFID, the United Nation’s Children’s Fund, the Centers for Disease Control and Prevention, the Gates Foundation, and Doctors without Borders. The majority of these mHealth interventions use mobile phones for a variety of functions that include data collection, community health worker performance monitoring, management of commodities, SMS messaging between providers and patients, appointment reminders, and mobile money. The focus has mostly been on HIV and AIDS prevention and treatment (including ARV adherence and circumcision promotion), but nutrition and antenatal and postpartum care have also been addressed using mHealth approaches. As of the time of starting the SMS intervention study in Mozambique, none of the mHealth interventions in Mozambique was designed to improve youth’s knowledge, attitudes, beliefs, and norms related to contraception.

1.3 Summary of the Evidence using SMS for Sexual and Reproductive Health

The use of SMS to deliver health education has increased phenomenally over time, and studies have shown its acceptance and feasibility to deliver health information. In a US-based randomized control trial, SMS reminders to take oral contraceptive pills daily resulted in higher rates of continuation among the intervention group, compared to the control group.¹³ The use of SMS for delivering HIV and sexually transmitted infection (STI) information was also shown to have gained high acceptance among youth in San Francisco.¹⁴ Other SMS projects requiring clients to ask questions and seek clarifications through the SMS system have also been shown to be acceptable and effective ways of delivering health information. For example, in the US, the Planned Parenthood offers a SMS and online live chat service for clients to access information about contraception and sexual health. Over 88% of program users felt the program was helpful.¹⁵

In Nigeria, the MyQuestion/MyAnswer project provides youth with opportunities to text in, email, or go online and ask questions related to SRH and get responses from trained staff. A preliminary evaluation of the project showed that 61% of the users were below the age of 25, and using over 15,000 phones,

more than 60,000 questions have been asked.¹⁶ In Tanzania and Kenya, the Mobiles for Reproductive Health (m4RH) project offers a menu driven functionality for clients to opt in to choose the type of contraception information they would like to receive via text. A preliminary evaluation of this project showed that using SMS to deliver SRH information is acceptable and feasible, particularly among the youth. In sum, the few studies that have been carried out have shown that delivering SRH information via SMS is acceptable and feasible with the recommendation that similar interventions should be carried out among youth in particular.¹⁷ While it has been demonstrated that SMS is a feasible and acceptable way to provide information to youth about SRH, there is a gap in the evidence linking SMS to SRH outcomes, specifically knowledge and intentions to use contraception, and even more so interventions targeting young people in low income countries including Mozambique.¹⁷⁻¹⁹

In addition to information provision, SMS has also been used to deliver fictional stories about SRH, but experience in this area is very limited. A pilot test in Ghana by FHI360 of short SMS role-model stories about emergency contraception showed that youth were most engaged when they received the stories, and that SMS could be adequately deployed to deliver the stories. Fictional narratives in other media formats, most notably long-running radio serial dramas, have been shown to influence intermediate psycho-social variables contributing to reproductive health behavior change, and to be associated with self-reported changes in SRH behavior.²⁰ Based on the FHI360 experience and the evidence of the effectiveness of serial drama, Pathfinder/Mozambique incorporated stories about young people encountering and overcoming personal, social and structural barriers to contraceptive use into their SMS project, with the intent of generating evidence on whether longer format stories delivered via SMS can positively impact attitude, self-efficacy, and social norms related to contraceptive use.

I.4 Pathfinder Mozambique: Family Planning Initiative and the mCenas! Project

Through two decades of work with young people in Mozambique that includes support to the Government of Mozambique to implement the national youth SRH program, Geração Biz, and the implementation of a wide range of other projects that have a focus on adolescents and youth, Pathfinder Mozambique has come to recognize the many barriers youth face in accessing and using contraceptive services in Mozambique. The ESD/FPI project was designed to address many of these barriers through improving quality service delivery for young people and through community outreach to foster more supportive norms around adolescent and youth sexuality. Through the project, providers were trained to mainstream high-quality and youth-friendly services through 156 clinics in 4 provinces; one-on-one counseling and referral services were provided through peer outreach and home visits, and adolescents and youth in pre-service institutes were engaged in peer education and other mobilization activities. However, despite these efforts, limited knowledge around the range of contraceptive methods, together with myths and misconceptions about particular methods, remains one of the main barriers to uptake of contraception among youth. The desire to improve knowledge and minimize misconceptions and myths about contraceptive methods coupled with a growing use of mobile phones among youth in Mozambique led to the design and implementation of the SMS intervention which gave youth new opportunities to learn more about these methods.

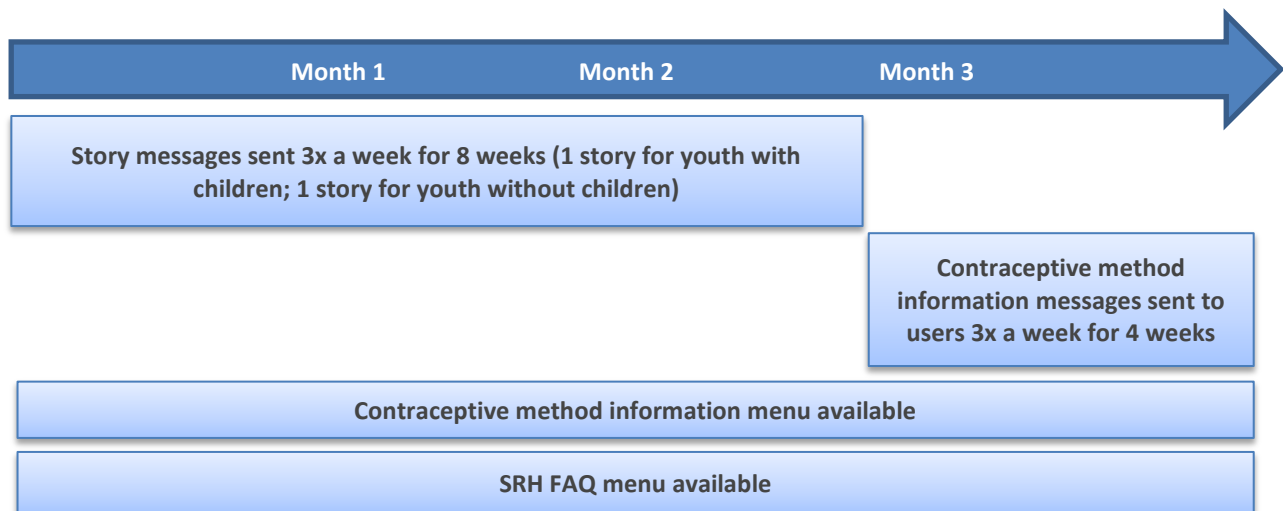
Pathfinder developed *mCenas!* (mobile scenes), an interactive two-way text-message based system for youth (15-24) with and without children. The goal of *mCenas!* was to engage youth in a SMS-based story and informational message system that would increase knowledge about contraceptive methods, dispel common myths around contraception, and address common barriers youth face regarding use of contraception. The SMS system had three main components:

1. A fictional story delivered through SMS messages and based on behavior change theory to create a compelling and realistic narrative that youth could relate to and draw on for further dialogue and reflection with peers;
2. Informational messages about each contraceptive method; and,

3. An interactive frequently asked questions function for youth to access the system for information about a range of SRH topics that they would like to know, including information on contraceptive methods.

Enrolled youth receive the story messages three times a week for eight weeks and then receive the contraceptive information messages three times a week for four weeks. During the three-month period of message delivery, the youth have access to a menu of the frequently asked SRH questions and contraceptive method information messages. In total, clients received SMS stories and informational messages for three months and had access to the interactive menus for the entire duration of the project (see Figure 1). The youth were also linked to the Ministry of Health (MOH)-implemented youth-friendly hotline where, with the help of a live representative, they could get answers to any questions they had about contraception and referrals to health facilities. To ensure that the hotline provided adequate information on contraception (since it initially provided information only on HIV), Pathfinder provided training to the hotline operators on contraception and health facilities that offer youth-friendly services.

Figure 1: mCenas! design



Pathfinder Mozambique partnered with Dimagi Inc. to implement the mCenas! project. Dimagi provided the SMS software platform (CommConnect) and supported Pathfinder to maintain the SMS messages and platform throughout the project. Dimagi obtained a short code from a local third party aggregator for project use ensuring that the costs of the SMS messages sent by clients into the system were paid for by the project.

The SMS project was implemented in Matola district of Maputo province and Inhambane City district of Inhambane province of Mozambique. The target population for the intervention was male and female youth aged 15-24, including those with children and without. Pathfinder worked with one community-based organization in each project province to recruit and enroll youth into mCenas! through their peer educators/community workers/activistas. Pathfinder International organized youth events during which the *activistas* recruited youth for the intervention. During those events, *activistas* asked youth to indicate interest in participating in mCenas!. All interested youth were then enrolled via the SMS platform. Pathfinder enrolled a total of 2,005 youth in mCenas! starting from October 2013, and continuing until February 2014. The SMS messages and menus were sent through June 2014.

A preliminary analysis of system usage data of all enrolled youth (n=2,005) shows that the SRH menu received the most requests (10,451), and the most commonly requested topics were: Am I ready for sex?, Masturbation, and Sexual Pleasure. The Contraceptive Methods menu received fewer requests (6,887), perhaps because these messages were also sent to all users independently of request, and the most commonly requested topics were: Injectables, IUDs, and Implants. Unexpectedly, mCenas! also received about 4,000 messages from users asking free-form questions about relationships and sexual health, and commenting on the stories.¹ These messages suggest strong audience engagement with stories and a desire for interactivity, which should inform future mhealth for youth interventions.

Throughout the project, Pathfinder worked closely with the MOH to ensure that any lessons and results from this work were used to inform other mHealth efforts.

1.4.1 Process for Developing the Message

In order to develop culturally and contextually appropriate SMS stories, Pathfinder used an innovative approach to gather information from youth about barriers and facilitators to uptake of contraception. The approach involved applying the *Pathways to Change* tool, a methodology developed by Pathfinder to help participants identify various social, interpersonal, and structural barriers as well as facilitators to behavior change. Pathfinder convened 15 different small group sessions, divided between the provinces of Inhambane and Maputo, with young men and women (in mixed and single sex groups). The sessions were divided into those: with children and without children; in school and out of school; and by age group (15-19 and 20-24). Trained facilitators led the small groups to identify the barriers and facilitators (at the individual, social, and structural level) that could inform whether a character profile similar to them would seek to use contraception. The notes from these sessions included lists of the barriers and facilitators.

Data from *Pathways to Change* were then analyzed by a team composed of Pathfinder Mozambique staff, Pathfinder Headquarters staff, and consultants with expertise and experience in adolescent and youth SRH in Mozambique. The most frequently stated barriers and facilitators were listed and compared by group characteristics (i.e., younger vs. older youth, males and females, with children and without, Matola and Inhambane). The most notable differences in barriers and facilitators to contraceptive uptake were found to exist between young people who had children and those who did not. In particular, unmarried youth receive social and parental pressure not to have sex at all, while youth in union experience pressure to have children; in both cases, contraceptive use could be considered inappropriate. Additionally the belief that having sex too soon after giving birth, or while nursing could hurt the baby was also perceived as an obstacle to accessing contraceptive services for youth with young children. Therefore, Pathfinder developed two different stories: one for youth with children and one for youth without. Both stories included main characters for males and females and both stories incorporated many of the barriers and facilitators identified in the formative research. Stories were crafted based on the stages of change theory to reflect real life behavior change processes. Furthermore, the stories were written by a local young script writer using common youth SMS language in Mozambique. The stories were pretested for comprehensibility and interest.

Each story has 24 chapters, delivered over 8 weeks. Chapters are delivered one at a time (comprised of 3 messages each). Three chapters are sent a week (approximately every other day). Summaries of the two stories are provided below.

¹ These free-form messages are currently being analyzed to understand additional SRH information needs and concerns of this population.

Emma's story (for young people without children)

Emma is a 16-year-old school girl who lives with her mother. Her older sister studies away from home. Emma and her best friend Fina are in a dance club at school, and Emma dreams of completing her education and having a profession. At a dance performance she meets 17-year-old Ze, who later invites her to his house where they can be alone. They have sex, and although Emma asks him to use a condom, he refuses, saying that he will withdraw before ejaculating. He does not, however, and she fears that she is pregnant. Ze says this is her problem not his. Emma regrets ever having gotten involved with Ze. Emma is very relieved when she gets her period. Fina suggests that Emma should think about using a contraceptive method that she can control herself, and tells Emma that she uses the injection. When Emma's sister comes home to visit, Emma tells her what happened. Her sister tells her she could have used emergency contraception in that situation. Her sister tells her that another danger of unprotected sex is sexually transmitted infections and that she should use both a condom and another contraceptive method. Her sister uses an IUD, and tells Emma about it. Some weeks later Emma meets Edu, 17, who works at the market and is in a rap music group. They get to know each other. He is very considerate and says he would like to have sex but will wait until she is ready. Emma wants to go to a health facility to get a contraceptive method but is afraid of what people might think if they see her there. Emma and Edu have sex for the first time and he uses a condom. Emma visits the local public health facility which offers youth-friendly services and a nurse tells her about IUD, implants, injections, pills, and condoms, all of which are safe for young people to use. Emma chooses the IUD. At home, Emma's mother finds the card from the clinic and is upset. Emma's sister helps by explaining that many young people are sexually active and that it is best if they prevent pregnancy. Emma's mother says she just wants Emma to avoid the hardship she experienced by having her first child very young. Emma and Edu are happy together.

Ana's story (for young people with children)

Ana is 19. Her partner Rui is 20. They have been together for 2 years. He works at a gas station and studies at night. Ana is a domestic worker. They have a 4-month-old baby. When Ana got pregnant she had to drop out of high school. She hopes to go back someday. They live with Rui's family and share a room with Rui's little sister. Sometimes Ana and Rui would like to have sex, but they have little privacy. The nurse told Ana that she could have sex again as soon as she felt ready, but Rui's mother tells them that they should not have sex while the baby is still small because it is bad for the baby. Also, Ana does not want to get pregnant again soon; she would like to wait two years as recommended to her friend Mimi by a nurse. But Rui does not like to use condoms. Ana would like to use another contraceptive method, but she isn't sure how to talk to Rui about it, and worries that it might be expensive. She is also worried that her mother-in-law will find out and will be displeased that they are having sex. Ana's friend Mimi tells her that there are contraceptive methods she can use "in secret" and that her mother-in-law doesn't have to know. Mimi reveals that she herself uses the IUD, and encourages Ana to visit the nearest clinic offering youth-friendly services and assures her that the contraceptive methods are free there. Motivated by her desire to return to school and finish her studies, Ana is finally able to overcome her fear of Rui's reaction, and she speaks to him about using family planning. They agree that delaying pregnancy will allow her to finish school, will save money and will allow them to save for a house of their own where they will have more privacy. Ana visits the clinic, and has a good talk with a nurse who explains the different methods including the IUD, implants, injections, pills, and condoms. The nurse explains that it is important to wait until Ana's baby is at least 2 years old before getting pregnant again. The nurse assures her that having sex will not hurt the baby or Ana's milk and that there are contraceptive methods she can use. Ana discusses this with Rui and decides to use implants. Rui's mother does not agree with their 'modern ways' but she accepts their decision. Ana and Rui are pleased when his uncle announces he will go to South Africa for 2 years and the couple can stay in his house while he is away.

The contraceptive informational messages included in mCenas! were adapted from existing contraceptive information messages developed and tested by FHI360 via the m4RH project in East Africa. For mCenas!, the m4RH messages were adapted to be more appropriate for youth, and to align with the contraceptive options available in Mozambique. The interactive SRH question menu was developed through focus groups where youth engaged in participatory sorting and ranking exercises to identify the top questions they would like to see featured in the menu. The stories and all messages were pre-tested with young people in both Matola and Inhambane, reviewed by the MOH, and revised accordingly. The MOH approved all of the content and messages in mCenas!.

The mCenas! project was not designed as a stand-alone SMS program on contraception information for youth; rather, it complemented ongoing ESD/FPI activities at the health facility and community levels. For example, Pathfinder has always encouraged community-level discussions with youth on contraception and this continued throughout the duration of the SMS intervention. Pathfinder anticipated that by integrating the use of mobile phones into traditional public health program activities, the delivery and absorption of messages would be reinforced, creating a real impact on a young person's knowledge, attitudes, beliefs and intentions to use a contraceptive method.

1.5 Evidence to Action (E2A): Assessing the Effects of mCenas!

The overall goal of the Evidence to Action for Strengthened Family Planning and Reproductive Health Services for Women and Girls Project (E2A) is to strengthen family planning and reproductive health (FP/RH) service delivery, with a view to reducing unmet need for family planning. To achieve this, E2A calls for innovative strategies to meet the needs of different population groups, particularly those that are less likely to access the traditional health facility services for their FP/RH needs. The E2A project has identified youth as one of the target groups for which innovative service-delivery approaches must be developed to enable them meet their FP/RH service needs. E2A supported the design and implementation of the research component of the mCenas! to assess the effects of the intervention.

1.6 Research Objective and Questions

The objective of the study is to generate evidence on whether delivering contraception information via SMS is acceptable to youth 18-24 in Mozambique and could lead to improvement in their contraceptive knowledge, attitudes and self-efficacy².

1.6.1 Primary Research Questions

The primary research questions are:

- Is using SMS an acceptable method of delivering sexual and reproductive health, including contraception information, to youth aged 18-24 in Mozambique?
- Does the provision of information through SMS messaging (when integrated into a larger program that encompasses interpersonal communication with peer educators and small groups) improve knowledge of contraceptive methods and reduce misconceptions about contraception?
- Does the provision of stories based on behavior change theory through SMS messaging (when integrated into a larger program that encompasses interpersonal communication with peer educators and small groups) lead to improvements in self-efficacy, outcome expectations, and attitudes related to contraceptive methods among youth in Mozambique?

² The mCenas! Project, which was implemented by Pathfinder International worked with young people from 15-24 years old. The assessment was implemented by E2A among a sample of youth aged 18-24 years as recommended by the CNBS, the ethics review committee in Mozambique, to which the research protocol was submitted for approval.

I.6.2 Secondary Research Questions

The secondary research questions are:

- How do parenting and non-parenting youth differ on SMS intervention indicators of program acceptability, program engagement, contraceptive knowledge, and attitudes towards contraception?
- How do males and females differ on SMS intervention indicators of program acceptability, program engagement, contraceptive knowledge, and attitudes towards contraception?

2. Methodology

2.1 Study Design

Using a pretest-posttest design and by examining changes in measures of contraceptive knowledge, attitudes, and self-efficacy between baseline and endline surveys, the mCenas! project study was expected to document the effects of delivering contraception information/messages via SMS on contraceptive knowledge, attitudes, and self-efficacy of youth 18-24. Each survey question was based on the mCenas! SMS messages that participants received. Participant questionnaires consisted of both close-ended and open-ended questions. The number of questions answered by each respondent was dependent upon their sex and whether or not they had children at the time of the survey. In addition, the endline questionnaire had a few questions to assess acceptability of the mCenas! intervention.

2.2 Participant Population

The target population for the ESD/FPI intervention consisted of male and female youth aged 15-24, whether or not they were using a modern method of contraception at the time of enrollment. For the intervention, Pathfinder proposed to recruit about 2,500 youth. Using the sample size estimation formula described below, the estimated sample size for the study was 880 youth aged 18-24 to be drawn from the ESD/FPI-recruited intervention participants. While about 895 youth aged 18-24 were recruited for the study at baseline, only 504 of them could be reached at endline.³ Consequently, this report will be based on the data from the 504 participants surveyed at both the baseline and endline.

2.3 Study Area

The research was conducted in the districts of Matola (Maputo province) and Inhambane City (Inhambane province) of Mozambique. In each of the two study districts, one of the community-based organizations (CBOs) that usually provide health information and services to youth in the community was selected to recruit youth for the intervention and study.

2.4 Sample Size Estimation

The following formula was used to calculate the sample size. Even though it is a formula to estimate sample size for independent samples, it provides conservative estimates for paired samples⁴

$$n = D \frac{\left[\sqrt{2P(1-P)}Z_{1-\alpha} + \sqrt{P_1(1-P_1) + P_2(1-P_2)}Z_{1-\beta} \right]^2}{\Delta^2}$$

Where:

D = design effect **(1.5)**;

P₁ = the assumed baseline value of the indicator of interest (in our case, the level of contraceptive knowledge) for the baseline questionnaire **(0.5)**;

P₂ = the expected value of the indicator of interest at the time of the endline survey **(0.65)** such that the quantity (P₂ - P₁) is the size of the magnitude of change we desire to detect **(0.15)**;

P = (P₁ + P₂) / 2 = **((0.5 + 0.65)/2)**;

³ The significant loss to follow up was attributed to factors such as: (i) Non-constant nature of phone ownership in Mozambique; besides phones being stolen or given to friends/family members, phone numbers become non-functional if not registered within a few months. (ii) Difficulty in reaching participants through phones due to network (connection) problems, subscriber being out of mobile phone range or reluctance to take calls; (iii) Not having the time to present for interviews because the school was in session at the time of the endline survey.

⁴Connor, RJ. Sample size for testing differences in proportions for the paired-sample design. *Biometrics*. 1987 March; 43(1):207-11.

$Z_{1-\alpha}$ = the z-score corresponding to the probability with which it is desired to be able to conclude that an observed change of size ($P_2 - P_1$) would not have occurred by chance; and,

$Z_{1-\beta}$ = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size ($P_2 - P_1$) if one actually occurred.

$\alpha = 0.05$ ($Z_{1-\alpha} = 1.65$) $\beta = 0.20$ ($Z_{1-\beta} = 0.84$)

The primary indicator for calculating the desired number of youth to be interviewed for this study is the percentage point change in knowledge of contraception. Unfortunately, there were no estimates of the percentage of youth with knowledge of contraception in the study areas prior to intervention. Consequently, we adopted a baseline value of 50% ($p=0.5$) to maximize our sample size. We also assumed that between baseline and endline, contraceptive knowledge would increase by 15 percentage points and the level of precision was set at 95%. Based on these parameters, the sample size calculations yielded a minimum sample size of 200 for each of the four strata identified for the study: females with children; females without children; males with children; and, males without children. Across the four groups, the total number of youth to be interviewed was estimated as 800. Considering that not all youth approached would accept to participate in the study, particularly at endline, we added a 10% non-response rate to the minimum sample of 800 to yield an effective sample size of 880 (220 participants per group).

Table 1: Distribution of desired sample by province, respondent's sex and child status^a

Sample size breakdown (880 participants)						
Province	Percent of overall sample size drawn from each province ^a	Sample size drawn from each province	Males with children	Males without children	Females with children	Females without children
Maputo Province Matola District	70%	616	81	165	122	248
Inhambane Province Inhambane City District	30%	264	35	71	52	106
Total	100%	880	116	236	174	354

a. The proportion of the sample proposed to be drawn from each province mirrors the proportion of youth Pathfinder proposed to recruit from each province for the intervention

Table 2 shows the number of youth actually enrolled at baseline and endline for each of the groups. The percentages under the endline figures show the percentages of youth interviewed at the baseline that were reached for interview at the endline. The percentages vary significantly across groups and province, ranging from 43.8% among female youth with children in Matola district of Maputo province to 78.4% among female youth with children in Inhambane City district of Inhambane province. The percentage of baseline survey respondents that presented for endline survey was generally lower in Maputo province (52.5% overall) than in Inhambane province (66.3% overall). As indicated above, the current analysis is built on data from the 504 respondents who were interviewed at both the baseline and endline surveys. It should be noted that we compared the baseline demographic compositions of all the 895 baseline respondents with those of the 504 of them who interviewed at endline to determine

the existence of significant systematic selection bias in the endline sample. The results (outlined in section 3 of this report) show no significant differences in the baseline compositions of the 895 baseline respondents and those of the 504 of them who interviewed at endline. This result suggests that individuals interviewed at baseline who could not present themselves for endline interviews were randomly distributed across different groups of respondents defined by demographic variables.

Table 2: Distribution of interviewed youth at baseline and endline by province, respondent's sex and child status

Sample size breakdown (880 participants)						
Province	Survey	Sample size drawn from each province	Males with children	Males without children	Females with children	Females without children
Maputo Province Matola District	Baseline	649	156	162	169	162
	Endline	341 (52.5%)	102 (65.4%)	72 (44.4%)	74 (43.8%)	93 (57.4%)
Inhambane Province Inhambane City District	Baseline	246	64	66	51	65
	Endline	163 (66.3%)	37 (57.8%)	46 (69.7%)	40 (78.4%)	40 (61.5%)

2.5 Recruitment and Enrollment

Program participants were recruited and enrolled by *activistas*, youth peer educators affiliated with CBOs. At baseline, the enrollment into the ESD/FPI program intervention and the E2A-supported research were conducted simultaneously by the *activistas*. Recruitment and enrollments took place during pre-planned events, including sporting events, which were similar to other youth events that the *activistas* had routinely organized. The events were held at schools, or other convenient locations in the community that included sport and recreation facilities/fields and community centers. Within these locations, interviews took place in tented/covered areas that protect the privacy of the participants.

On arrival at the venue, youth were directed to first meet with an *activista* who enrolled them in the ESD/FPI intervention using the SMS platform. The SMS platform provided a set of eligibility questions that *activistas* asked of the participants. The SMS questions helped to determine: (i) eligibility in the intervention/study by confirming that a participant was between the ages of 15 and 24 years (for program intervention) and between 18 and 24 years (for study), and owns a mobile phone; and, (ii) the group to which the participant would be assigned (with children or without children). Female youth who were pregnant with their first child were classified as “with children.” This categorization was determined by the program intervention team, and was merely adopted by the research team. Information regarding the group to which a participant was assigned was recorded and tracked by SMS during enrollment. Additionally, *activistas* kept daily paper tabulation of youth recruited by age, sex, and parity. At the end of each recruitment day/event, total recruitment numbers (disaggregated by age, sex, and parity) were reviewed with field supervisors to determine the outstanding number of participants to be recruited in each category. The daily tracking of enrollment was also done to prevent over-enrollment of participants.

Following enrollment into the program intervention, each participant was asked to indicate willingness to participate in the study. The *activista* then entered the participant's response to an automated SMS question on whether the participant would like to enroll in the E2A research study. If the response was no, the participant would only receive intervention SMS messages. If the response was yes, the *activista* then responded to an automated SMS question on whether the participant was aged 18-24. If the response was yes, the *activista* would then lead the participant to an interviewer who then administered the baseline questionnaire immediately during the same event.

Each interview was preceded by the administration of the informed consent by the interviewer and confirmed by the participant's signature on a paper form. It was emphasized during the informed consent process that participation in the study was strictly voluntary. Following the interview, the participant then received SMS questions related to both the intervention and the study. The SMS platform initiated all messaging and participants' phone numbers were used as identifiers to enable tracking of SMS responses throughout the intervention.

At endline, interviews also took place during events similar to those organized during recruitment and baseline interviews. Baseline survey respondents were contacted by phone to confirm willingness to participate in the endline interviews and, once confirmed, interviews were scheduled. The interviews were to be held at pre-determined central locations. For the endline data collection, the consent form was administered over the phone and signatures were obtained in person when participants showed up for interviews.

2.6 Training of Fieldworkers and Pretesting of Tools

A local research firm, Verde Azul, was contracted to manage the logistics for the enrollment of participants for the study as well as coordinate baseline and endline data-collection activities. For data-collection activities, Verde Azul recruited the research assistants (interviewers and supervisors). All the research assistants were trained to have a clear understanding of the study objectives, data-collection instruments, their data collection roles, the need for good quality data, and the principles and procedures related to human subject research. E2A, Pathfinder International, and Verde Azul staff conducted the training of research assistants. During the training, there were plenary discussions, role-plays, pretests, and revision of the data-collection instruments. The training sought to achieve the following objectives:

1. Develop a common understanding of the objectives of the study.
2. Become more familiar with the data-collection instruments and the type of data collected; relate instruments to study objectives and revise draft instruments as needed.
3. Review study processes, including identification and recruitment of respondents and administration of study instruments.
4. Develop a shared understanding of the ethical and confidentiality issues involved in conducting the study.
5. Develop a shared understanding of the roles of field workers (supervisors and interviewers).
6. Provide an opportunity to rehearse/pilot test the interview tools.
7. Share information and learn from each other about how best to conduct the study.

A pretest of the instruments was undertaken midway into the training to determine clarity, flow, and cultural appropriateness of the questions. The pretest was conducted in non-intervention sites around Maputo. During the pretest, the questionnaires were administered on the four groups of respondents identified for the study: male youth with children; male youth without children; female youth with children; and female youth without children. Based on the observations during the pretest, the survey instruments were reworded as needed after the pretest.

2.7 Data Collection

Data for this study were collected mainly through face-to-face interviews. The baseline data were collected between January 29 and February 14, 2014 and the endline data between June 6 and July 2, 2014. Using standardized, pre-coded questionnaires, the interviewers gathered information to measure changes in knowledge, attitudes, and self-efficacy related to contraceptive use. After three months of SMS messaging from the mCenas! intervention (two months of stories, one month of informational messages), the study participants were contacted to schedule endline interviews. Endline questionnaires were administered to the same respondents who were interviewed at baseline.

For verification purposes, data were also collected through mobile phones, with the use of CommConnect, a SMS software platform. At both baseline and endline, the following questions were asked of all participants through SMS: (i) *Is the participant currently sexually active?* (ii) *Is the participant currently using contraception?* (iii) *Which method is the participant currently using?* (iv) *If the participant mentioned condom, how frequently is condom used?* (v) *Does the participant intend to use a contraceptive method in the future (within the next 12 months)?*

2.8 Community Entry and Safety

At the beginning of fieldwork, the study team contacted key stakeholders in the communities where the study took place to facilitate community entry and ensure safety of field workers. Stakeholders engaged included district health officers, CBO staff, community leaders and staff of non-governmental organizations working in the community.

2.9 Data Quality Assurance

Several quality assurance measures were adopted to ensure that data were of high quality. Adequate training was provided to the research assistants (interviewers and supervisors) on the objectives of the study, the structure of the questionnaires, and data-collection and monitoring techniques. The supervisors were adequately trained to monitor field activities, including recruitment of participants into the different groups, and review of completed questionnaires for completeness, internal consistency of responses and out of range values. Where data was missing or obvious inconsistencies were noted, they usually informed the interviewer who would then provide explanations. Research assistants and their field supervisors met at the end of each enrollment event to review progress, discuss problems and challenges, and explore ways to improve data collection activities.

2.10 Data Management and Analysis

On a regular basis, completed questionnaires were sent in batches to the office of Verde Azul for editing and data entry. Participants' phone numbers were used as unique identifiers for tracking the data and completed questionnaires were distributed to data editors to check once more for completeness, consistency of data, and out of range values.

The data were entered using CSPro and exported into SPSS for data analysis. Frequency tables that show the distribution of respondents by variables of interest were generated, and bivariate analysis that explores relationships between variables were undertaken. McNemar's test was used to determine equality between pre- and post-intervention levels of contraceptive knowledge, attitude and self-efficacy among each of the four cohorts—females with and without children, and males with and without children. E2A developed the data-analysis plan that informs the types of tables to generate.

2.11 Confidentiality

In order to protect the confidentiality of participants' information during data transfer and storage, participants' names were not recorded. Instead, participants were tracked only by their phone numbers. Participants' confidentiality was also assured by protecting the data set with a passcode, accessible only to the research team. Team members with access to the data set were trained on the importance of maintaining confidentiality and the implications of violating confidentiality.

Paper surveys and informed consent forms were kept in locked file cabinets and only the local research managers and the research team have access to the locked cabinets. The electronic versions of the data was stored on a password-secured hard drive of the data entry computers, and saved on USB storage drives that were kept in the locked cabinet. After five years of secure storage, all data will be destroyed. Paper records will be shredded. Electronic records will be destroyed by any of the following methods: shredding, crushing, or incineration; high-level overwriting that renders the data unrecoverable; or degaussing/demagnetizing. Participants' confidentiality will be protected throughout the destruction processes.

2.12 Utilization

It is expected that the results of this study will contribute to evidence on the viability of SMS messaging in bringing about desired knowledge, attitudinal, and self-efficacy changes through increasing SRH information among youth in Mozambique. Additionally, data gathered during interviews will provide a youth perspective on barriers to accessing and utilizing SRH services. It is thus expected that the study results will contribute to informing and improving future SRH programming for youth by showing how the use of mobile tools for relaying health information can make a difference in SRH programming, not only in Mozambique but also in other less-developed countries.

2.13 Limitations of the Study

As indicated above, mCenas! was not designed as a stand-alone SMS program on contraception information to youth; rather, it was designed to complement ongoing ESD/FPI activities at the health facility and community levels. By not having a study design that permits a comparison of the integrated mCenas! project with standalone mobile phone or community/facility level programs, it was impossible to determine the relative contribution of the SMS intervention to any observed improvements in knowledge, attitude, and self-efficacy regarding contraception. All we can say is that the SMS intervention contributed to those observed improvements. As noted above, the significant loss of youth who were exposed to the intervention in the endline survey makes it difficult to determine with any level of precision the effects of the intervention on contraceptive knowledge, attitude and self-efficacy of youth in Mozambique. This is because we were not able to assess how study participants who could not be reached at endline responded to the information and stories they received during the intervention.

2.14 Ethical Considerations

The study was initiated only after obtaining ethical approval from the appropriate ethics review boards in Mozambique and the United States. The study did not include invasive or medical procedures of any kind. Participation in the study posed less than minimal risk and was strictly voluntary. Measures were taken to assure the respect, dignity, and freedom of each participant. For example, during the training of research managers, research assistants, and *activistas*, emphasis was placed on the importance of obtaining informed consent, and avoiding coercion of any kind. Protecting the privacy of study participants and the need to keep data confidential were also emphasized.

2.15 Informed Consent Process

The informed consent process was managed by the interviewers. Before starting the interviews, a summary of the study and the role of the participant was read out by the interviewer. The objectives and nature of the study, as well as potential risks and benefits, were clearly explained to the participant.

Each participant was assured of confidentiality; names were not to be recorded on the questionnaire, only phone numbers. It was also emphasized that participation in the study was completely voluntary, and that there was no penalty for refusing to participate. It was also explained to participants that they could still participate in the program intervention even when they decided to not participate in the study. The participants were given opportunities to ask questions before they appended their signatures on the informed consent. The consent forms were separated from the actual questionnaires and stored in a locked drawer. The information from the informed consent forms were not recorded anywhere, or entered into the study database.

2.16 Risk vs. Benefit Analysis

E2A did not provide any services to participants and the research posed no more than minimal risk. E2A merely collected information on youths' understanding and perceptions of SRH information and services, with a view to improving future SRH programming for youth. There are no foreseeable physical or social risks for the participants even though there is potential for psychological risk, due to discomfort or embarrassment with some of the interview questions. Interviewers were trained on how to handle embarrassments that might arise from more personal and sensitive questions. All interviews were conducted by same-sex interviewers, and respondents were told that they were free to not answer any question about which they felt some discomfort; respondents were free to stop the interview at any time.

The implementing organization, Pathfinder International, has worked with youth in Mozambique, specifically on the topic of SRH, for over 10 years. Pathfinder International has provided SRH information and services to members of the community over several years with the result that stigma associated with receiving SRH information and services was almost non-existent at the time of the study. Therefore, no stigmatization was anticipated by sending baseline and endline SMS questions on the issue of contraception.

The benefits of participating in the study extend to individual participants, as well as the community. By participating in this study, participants contributed to informing and improving upon future SRH programming for youth. The augmentation of SRH programming would likely contribute to decreased numbers of unwanted pregnancies and STI/HIV infections. This would not only benefit youth who participate in the study, but the community as a whole.

2.17 Dissemination of Results

A dissemination workshop will be conducted in Mozambique at the end of the assessment to share the findings with key stakeholders. A written report will be submitted to USAID, the MOH, and other relevant stakeholders in Mozambique. The study results will also be presented nationally and internationally through USAID channels and by E2A and Pathfinder International. Besides the technical report, program/technical briefs will be prepared and manuscripts will be submitted to peer-reviewed journals for publication. Beyond dissemination, it is hoped that the assessment findings will be useful to the Government of Mozambique, the ministries of health, and implementing NGOs/CBOs who work with youth.

3. Study Findings

3.1 Background Characteristics of Respondents

Table 3.1 shows the percentage distribution of the 895 respondents interviewed at baseline and the 504 of them who reported for endline interviews by selected background characteristics. The selected characteristics are age, marital status, age at sexual debut, number of children, fertility intention, district of residence, education, school attendance status, frequency of receiving or sending SMS, and source of income. Comparing the baseline distributions of the two samples sought to determine whether the 504 youth who participated in the endline survey were randomly distributed across different socio-demographic sub-groups of the 895 baseline interviewees. Statistically significant differences in the baseline distribution of the samples by the selected characteristics would suggest that the two samples are not the same: the endline sample could then not be regarded as a random and consequently a representative sub-sample of the initial sample. The table shows that, except for level of education and district of residence, there were no substantial differences in the socio-demographic compositions of the two samples⁵. This finding suggests that for most part, respondents who could not be reached at endline were randomly distributed across the select groups of youth. However, higher educated youth (particularly among female youth) were more likely to be reached at endline, and, the probability of being interviewed at both baseline and endline was higher in Inhambane than in Matola district.⁶

⁵ We also compared contraceptive knowledge at baseline of respondents who were not interviewed at endline with those who were interviewed at endline and found no statistically significant difference between the two samples.

⁶ Tables 3.1 and 3.2 are found in this section (Section 3) of the report. All other tables referenced in Section 3 are found in the annexes to this report.

Table 3.1: Comparison of the baseline socio-demographic compositions of the 895 respondents interviewed at baseline and the 504 who reported for endline interviews

Background characteristics	Male				Female			
	Baseline Sample of (448)		Endline Sample of (257)		Baseline Sample of (447)		Endline Sample of (247)	
	%	n	%	n	%	n	%	n
Age								
<20	41.5	186	39.7	102	46.5	208	47.0	116
20+	58.5	262	60.3	155	53.5	239	53.0	131
Marital status								
Married/cohabiting	22.8	102	25.3	65	31.8	142	27.5	68
Unmarried	77.2	346	74.7	192	68.2	305	72.5	179
Age at sexual debut								
Never had sex	7.4	33	7.8	20	5.2	23	6.1	15
<16	39.5	177	39.0	100	23.7	106	23.5	58
16+	53.1	238	53.2	137	71.1	318	70.4	173
Number of children								
0	49.8	223	49.0	126	47.9	214	52.0	128
1	47.1	211	47.1	121	40.0	179	38.9	96
2+	3.1	14	3.9	10	12.1	54	9.1	22
District								
Inhambane	29.0	130	32.3	83	26.0	116	32.4	80
Matola	71.0	318	67.7	174	74.0	331	67.6	167
Level of education								
None or primary	9.2	41	7.1	18	11.0	49	6.6	16
Junior secondary	30.6	137	26.7	69	44.7	200	39.1	96
Senior secondary	40.6	182	45.1	116	39.8	178	48.1	119
Tertiary	19.6	88	21.1	54	4.5	20	6.2	15
School attendance status								
In-school	57.8	259	59.4	153	56.8	254	62.8	155
Out-of-school	42.2	189	40.6	104	43.2	193	37.2	92
Frequency of sending/receiving sms per day								
0-10	45.8	205	44.7	115	63.6	284	58.7	145
11-49	48.6	218	49.4	127	31.0	138	34.3	84.7
50+	5.6	25	5.9	15	5.4	25	7.0	17
Source of income								
Parents/relatives/spouse	31.9	143	30.8	79	68.2	305	68.8	170
Employment/other economic activities	68.1	305	69.2	178	31.8	142	31.2	77
Total	100.0	448	100.0	257	100.0	447	100.0	247

Significant at $p \leq 0.05$

Table 3.2 shows the baseline and endline socio-demographic compositions of the 504 youth interviewed. The baseline and endline compositions were provided to examine whether there were major changes/shifts in the inter-survey period. The table shows that:

- The majority of the respondents were aged 20-24. At baseline about 60% of male respondents and 53% of female respondents were aged 20-24, implying that the males recruited for the study were slightly older than their female counterparts. During the inter-survey period, 20 female respondents who were aged below 20 years at baseline attained the age of 20, thus increasing the percentage of female youth aged 20-24 from 53% at baseline to 61.1% at endline.
- The overwhelming majority of respondents (75.4% of males and 71.3% of females) had never been married⁷ at endline. Although majority of the youth respondents were not married, only a small percentage reported to have never had sex at the time of the endline survey (7.8% of male and 5.3% of female respondents). This finding suggests high pre-marital sex among male and female youth in Mozambique. Furthermore, with 39% of all male respondents and 23.5% of female respondents reporting to have had sex before age 16, the data show that the male youth generally started having sex earlier in life than their female counterparts.
- The initial study design was that half of the respondents would be youth with one or more children and the remaining half would be those without children. Despite the significant loss to follow-up, the endline sample still reflected the original proposed composition of the sample with respect to childbearing. At endline, 49% of male respondents and 51.4% of female respondents reported to have never had a child.
- Also by design, about one-third of the respondents were drawn from Inhambane district while the remaining two-thirds were drawn from Matola district. The proportion of study respondents interviewed in each district aligned with the percentage of youth recruited in each district for the intervention.
- Almost two-thirds of male respondents (65.7%) and about half of female respondents (53.4%) reported to have more than junior secondary education at endline. The figures indicate that the male respondents were generally more educated than their female counterparts. At the time of the surveys, approximately six in ten youth were in school.
- The frequency of sending/receiving SMS per day was generally lower for female youth than for male youth. At baseline 55.3% of male youth and 41.3% of female youth reported to receive/send more than ten SMS a day and at endline 54.5% of male youth and 40.5% of female youth reported to receive/send more than ten SMS a day.
- The overwhelming majority of male youth (about 69% at both baseline and endline) worked for money in order to meet their basic needs; contrarily, the overwhelming majority of female youth (about 69% at both baseline and endline) obtained money from their parents to meet basic needs.

⁷ Legally married or living with a partner

Table 3.2: Percentage baseline and endline distributions of the 504 respondents used for this report by selected background characteristics

Background characteristics	Male				Female			
	Baseline		Endline		Baseline		Endline	
	%	n	%	n	%	n	%	n
Age								
<20	39.7	102	39.7	102	47.0	116	38.9	96
20+	60.3	155	60.3	155	53.0	131	61.1	151
Marital status								
Married/cohabiting	25.3	65	24.6	63	27.5	68	28.7	71
Unmarried	74.7	192	75.4	194	72.5	179	71.3	176
Age at sexual debut								
Never had sex	7.8	20	7.8	20	6.1	15	5.3	13
<16	39.0	100	39.0	100	23.5	58	23.5	58
16+	53.2	137	53.2	137	70.4	173	71.2	176
Number of children								
0	49.0	126	49.0	126	52.0	128	51.4	127
1	47.1	121	47.1	121	38.9	96	38.5	95
2+	3.9	10	3.9	10	9.1	22	10.1	25
District								
Inhambane	32.3	83	32.3	83	32.4	80	32.4	80
Matola	67.7	174	67.7	174	67.6	167	67.6	167
Level of education								
None or primary	7.1	18	7.8	20	6.6	16	8.1	20
Junior secondary	26.7	69	26.5	68	39.1	96	38.5	95
Senior secondary	45.1	116	44.7	115	48.1	119	47.3	117
Tertiary	21.1	54	21.0	54	6.2	15	6.1	15
School attendance status								
In-school	59.4	153	57.6	148	62.8	155	62.8	155
Out-of-school	40.6	104	42.4	109	37.2	92	37.2	92
Frequency of sending/receiving sms per day								
0-10	44.7	115	45.5	117	58.7	145	59.5	147
11-49	49.4	127	48.6	125	34.3	84.7	33.6	83
50+	5.9	15	5.9	15	7.0	17	6.9	17
Source of income								
Parents/relatives/spouse	30.8	79	30.7	79	68.8	170	68.8	170
Employment/other economic activities	69.2	178	69.3	178	31.2	77	31.2	77
Total	100.0	257	100.0	257	100.0	247	100.0	247

3.2 Knowledge of Contraceptive Methods

One of the key objectives of mCenas! was to improve knowledge of contraceptive methods among youth. Although improved knowledge of contraceptive methods may not immediately translate to increased use of contraception, it is a precursor to increased use in the long run: youth can only use what they know. While inaccurate information (or beliefs) about FP in general or specific methods can lead to low uptake of FP, improved knowledge of contraceptive methods helps to reduce misconceptions about contraceptive methods and might consequently improve attitudes toward contraceptive use and uptake. Because all the respondents interviewed at both the baseline and endline surveys were exposed to the intervention that provides information on contraceptive methods, knowledge of contraception was measured not only by whether the respondent had heard of a method but also by the accuracy of their responses regarding safety, ease of use, when to use, and level of effectiveness of the method. The classification of knowledge into none, low, medium, and high was based on the number of method-specific issues for which responses were accurate. The four levels of knowledge were:

- None: Respondent reported to have not heard of the method before baseline or during intervention. At endline, it was not expected that any participant would report no knowledge since all participants would have received text messages on all the methods examined in this study; at endline, any participant who reported to have not heard of a method must have not read the text message on that method;
- Low: Respondent gave accurate response for only one of the method-specific issues raised;
- Medium: Response was accurate for 2-3 of method-specific issues raised;
- High: Response accurate for 4 or more of method-specific issues raised.

The changes in the number of methods about which the youth had medium-high knowledge at the time of the baseline and endline surveys are presented in figures 3.3.1 and 3.3.2 for male youth, with and without children, and figures 3.3.3 and 3.3.4 for female youth, with and without children⁸. For male youth, the figures were derived from the data in table 3.3.1 and for female youth the figures were derived from the data in table 3.3.2. Changes in knowledge are calculated as the percentage point difference between baseline and endline survey levels. A positive percentage difference shows an increase in the percentage of youth having a level of knowledge during inter-survey period and a negative percentage point difference shows a decline in the percentage of youth having a level of knowledge between baseline and endline surveys. It was expected that the mCenas! intervention would lead to an increase in the number of methods about which participants have medium-high knowledge. That is, it was expected that the proportion of youth reporting to have medium-high knowledge of 0-2 methods would decline while the proportion having medium-high knowledge of three or more methods would increase.

For both male and female youth, with or without children, the changes in the number of methods about which they had medium-high levels of knowledge aligned with expectations; there were declines in the percentages reporting medium-high knowledge of 0-2 methods (for males) and 0-3 methods (for females) and increases in the percentages reporting medium-high knowledge of three or more methods (for males) and four or more methods (for females). Figures 3.3.1 and 3.3.2 and table 3.3.1 show that for males with and without children, the interventions led to a statistically significant decline in the percentages reporting to have no medium-high knowledge of any method (from 21.4% to 11.5% for males with children and 22.2% to 10.9% for males without children) and statistically significant increase in the percentages reporting to have medium-high knowledge of three methods (from 14.5% to 24.5% for males with children and from 16.7% to 26.8% for males without children). For females, figures 3.3.3,

⁸ We used the number of respondents in each group at the time of the baseline and endline surveys.

3.3.4 and table 3.3.2 show that the interventions contributed to a statistically significant increase in the percentages reporting to have medium-high knowledge of 6 or more methods (from 7.7% to 20.0% for females with children and from 5.7% to 17.4% for females without children).

Figure 3.3.1: Percent distribution of male youth with children by number of family planning methods about which they had medium-high knowledge at baseline and endline
(N=131 at baseline and 139 at endline)

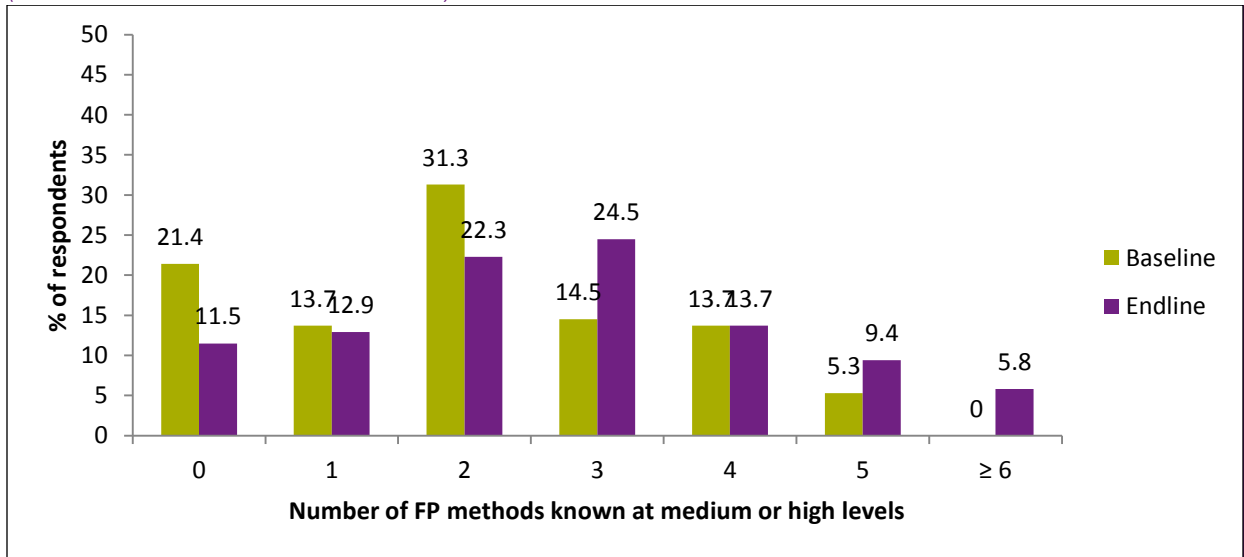


Figure 3.3.2: Percent distribution of male youth without children by number of family planning methods about which they had medium-high knowledge at baseline and endline (N=126 at baseline and 118 at endline)

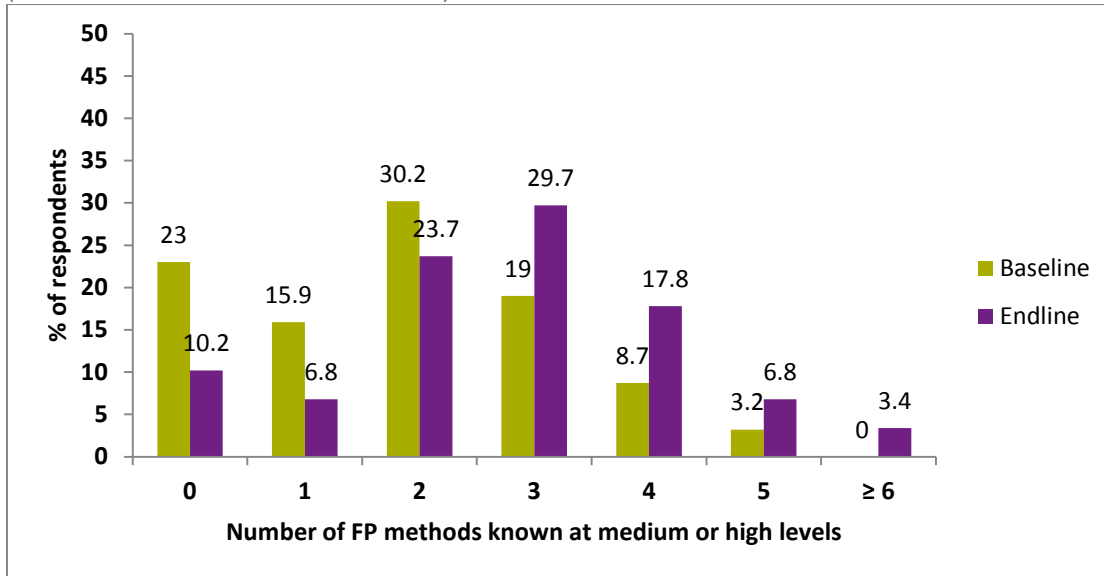


Figure 3.3.3: Percent distribution of female youth with children by number of family planning methods about which they had medium-high knowledge at baseline and endline (N=117 at baseline and 120 at endline)

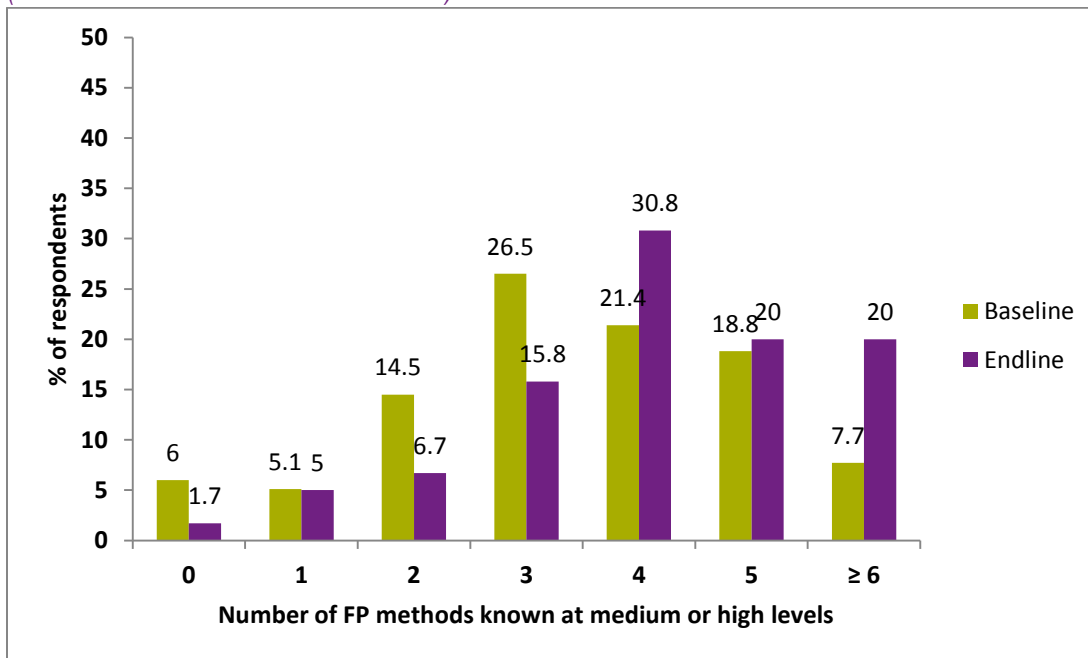
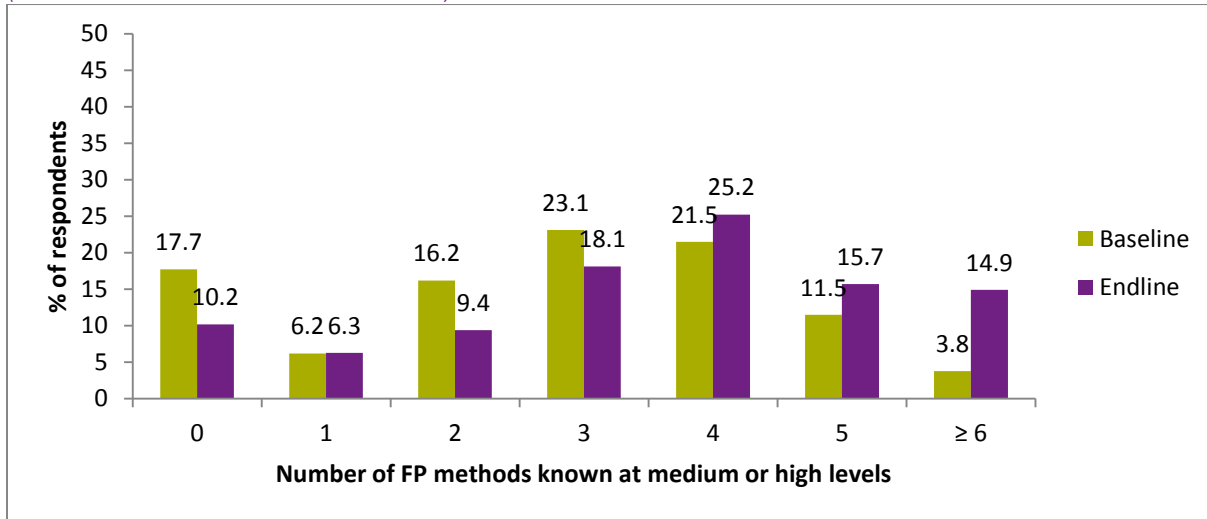


Figure 3.3.4: Percent distribution of female youth without children by number of family methods about which they had medium-high knowledge at baseline and endline
(N=130 at baseline and 127 at endline)



The percentages of respondents reporting to have no, low, medium, and high knowledge of each method examined in this study—male and female condoms, lactational amenorrhea method (LAM), emergency contraceptive (EC) pill, combined oral contraceptive pills, implants, injectable contraceptives, and the intra-uterine device (IUD)—are presented in figures 3.4.1–3.4.4 and tables 3.4.1–3.4.2. These figures and tables are presented to show how much young people’s knowledge of contraception varies by method and consequently direct attention to those methods where youth require more information.

For male youth, figures 3.4.1 and 3.4.2 and table 3.4.1 show that except for male and female condoms, knowledge of contraceptive methods is generally low (see the segments of the bars shaded in blue or red). However, for all methods, the percentages with no knowledge declined and the percentages with some (low-high) knowledge increased between the two surveys. There were more significant ($p \leq 0.05$) improvements in knowledge among male youth without children than among those with children and the magnitude of improvements varies by method. It is not clear why there were slight (insignificant) declines in the percentage reporting high knowledge of injectables⁹ among male youth. Among male respondents there were no significant differences in the percentages reporting no knowledge of any method by whether they had children or not. However, among female respondents, those with children were less likely to report no knowledge of LAM, oral contraceptive pill, injectables and IUD while those without children were less likely to report no knowledge of emergency contraception. Overall, the findings suggest that the SMS interventions contributed to improvements in what male youth know about these contraceptive methods.

⁹ The decline in the percentage reporting high knowledge of injectables could result from a better understanding of the difference between injectables and implant at endline due to exposure to the SMS intervention. What was reported as injectables at baseline might have been reported as implant at endline due to better understanding of what the two methods are at endline

Figure 3.4.1: Percentage distribution of male youth with children by level of contraceptive knowledge at baseline and endline

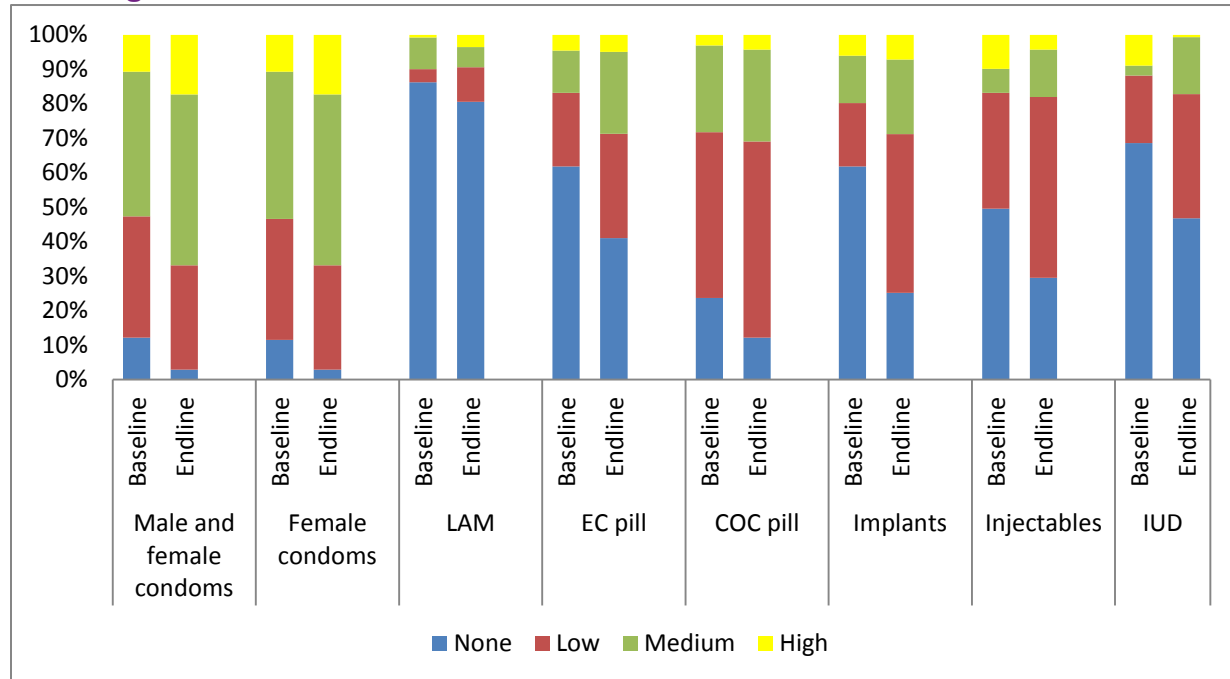
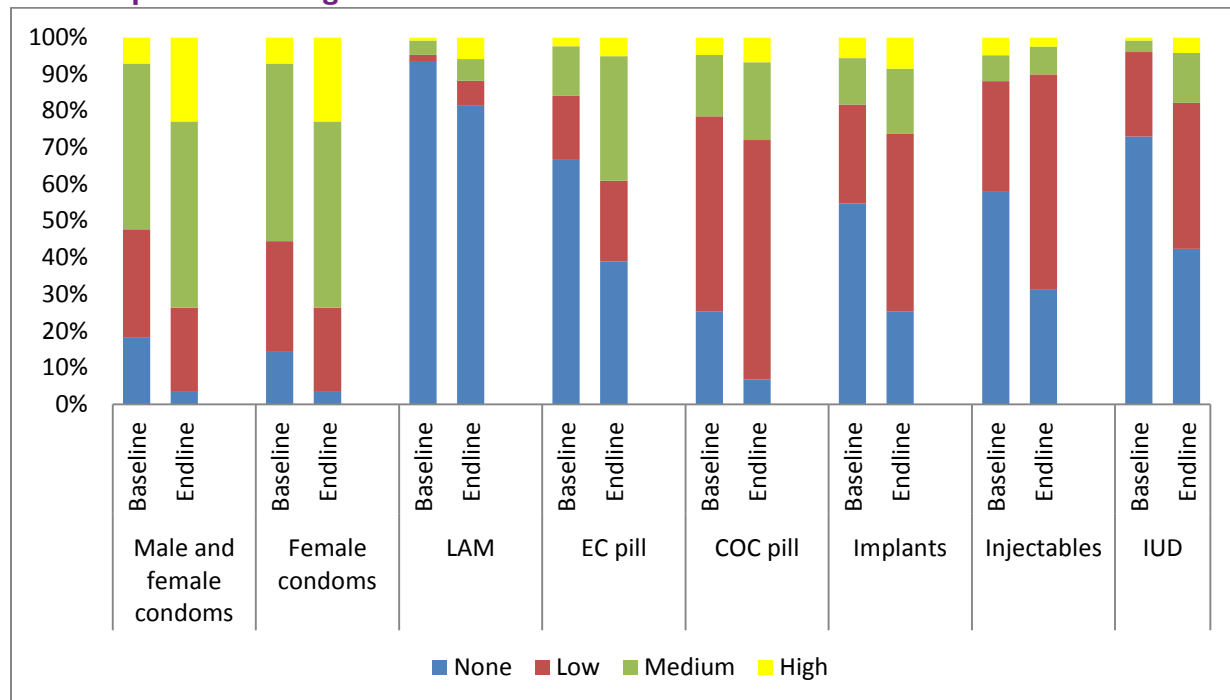


Figure 3.4.2: Percentage distribution of male youth without children by level of contraceptive knowledge at baseline and endline



For females, figures 3.4.3 and 3.4.4 and table 3.4.2 also show that except for male and female condoms and pills, knowledge of contraceptive methods is generally low (see the segments of the bars shaded in blue or red). However, for each method, there were declines in the percentages reporting no

knowledge and there were increases in the percentages reporting some (low-high) knowledge. There were also more statistically significant improvements in knowledge among female youth without children than among female youth with children and the magnitude of improvements in knowledge varies by method. As with male youth, the findings tend to suggest that the interventions contributed to improvements in what female youth know about these contraceptive methods.

Figure 3.4.3: Percentage distribution of female youth with children by level of contraceptive knowledge at baseline and endline

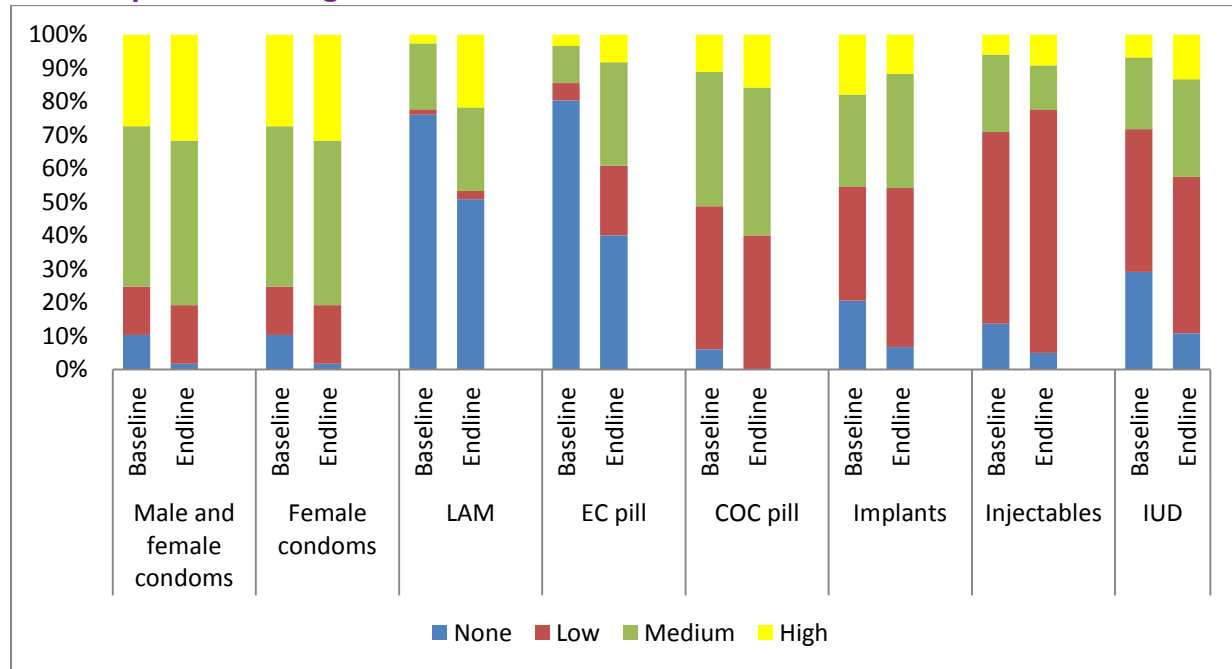
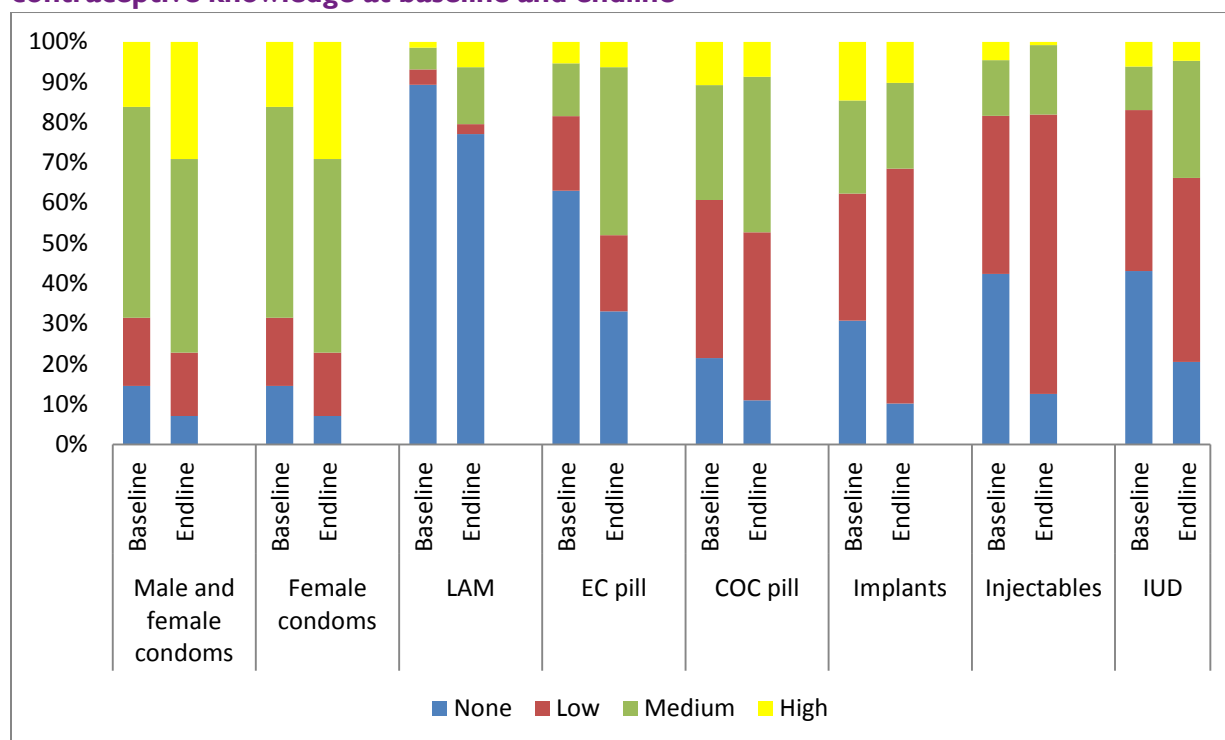


Figure 3.4.4: Percentage distribution of female youth without children by level of contraceptive knowledge at baseline and endline



3.3 Perceptions of Contraceptive Methods¹⁰

The respondents' perceptions of contraceptive methods were assessed on three qualities: safety of method; ease of use; and effectiveness of the method. Safety of a method has five response categories: not safe at all; fairly safe; very safe; don't know; and not applicable¹¹. Ease of use also has five categories: not easy at all; fairly easy; very easy; don't know; and not applicable. Effectiveness also has five categories: not effective at all; fairly effective; very effective; don't know; and not applicable¹². For each quality, respondents were asked to select one of the response categories to describe their perceptions of each method. Respondents' perceptions of the methods are important as they could influence the use of these methods. While positive perceptions may facilitate acceptance, negative perceptions may serve as barriers to use: the youth are not likely to accept/adopt a method perceived to be relatively unsafe, ineffective, and/or difficult to use. For this report, the focus is on changes in the percentages of respondents that perceived the methods to be very safe, very easy to use, and very effective since these are the perceptions of the methods the SMS interventions were implemented to achieve. The changes in the perceptions of respondents regarding the safety, ease of use, and effectiveness of the methods are presented in figures 3.5.1 – 3.5.2 and tables 3.5.1 and 3.5.2.

¹⁰ Even though they are examined here separately and in greater detail, it should be noted that these perceptions were used in assessing knowledge of each contraceptive method.

¹¹ For the three qualities of contraceptive method, the 'not applicable' category consists of respondents who reported to have never heard of a method and who were consequently not asked questions related to ease of use, safety and effectiveness of that method.

3.3.1 Safety of Contraceptive Methods

The respondents' perceptions of the safety of the methods are presented in figures 3.5.1, 3.5.2 and table 3.5.1 (for males) and figures 3.5.3, 3.5.4 and table 3.5.2 (for females). In figures 3.5.1-3.5.4, the areas of the bars shaded in yellow and pink represent the relative sizes of respondents who perceived the methods to be fairly safe and very safe, respectively, at baseline and endline. These figures show that, except for male condom, the combined areas shaded in yellow and pink are much smaller than those shaded in other colors, implying that except for male condom, knowledge of the safety of the contraceptive methods was generally low among the youth (both male and female, with and without children). However, a comparison of the relative sizes of the areas shaded in pink in figures 3.5.1 and 3.5.2 with those in figures 3.5.3 and 3.5.4, shows that higher percentages of female youth perceived the methods to be **very safe** (see tables 3.5.1 and 3.5.2). And, between baseline and endline, perceptions of the safety of some methods improved significantly. Among males, whether or not they have children, there were significant increases in the percentages who perceived combined oral pills, implants, and the IUD to be very safe. Among females, whether or not they have children, there were significant increases in the percentages who perceived the female condom, emergency contraception, implants, injectables and IUD to be **very safe**. The data for male and female youth suggest that the SMS intervention contributed to improved perceptions of the safety of these methods and that the contribution appears higher among female youth.

Figure 3.5.1: Percentage distribution of males with children by perceptions of the safety of FP methods at baseline and endline

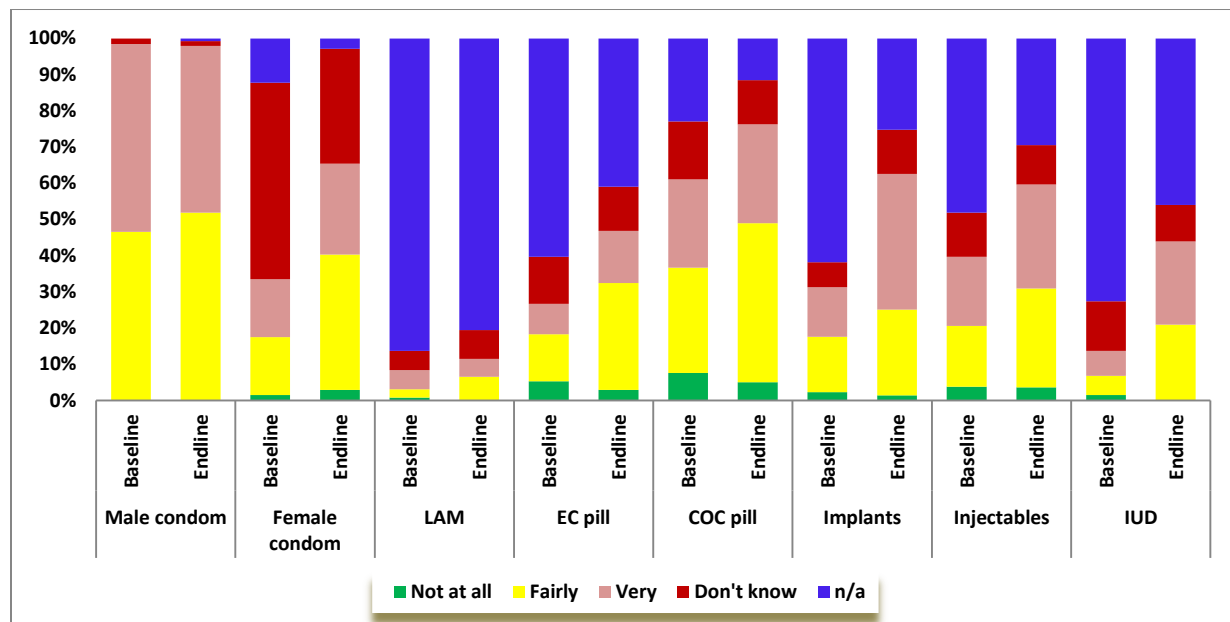


Figure 3.5.2: Percentage distribution of males without children by perceptions of the safety of FP methods at baseline and endline

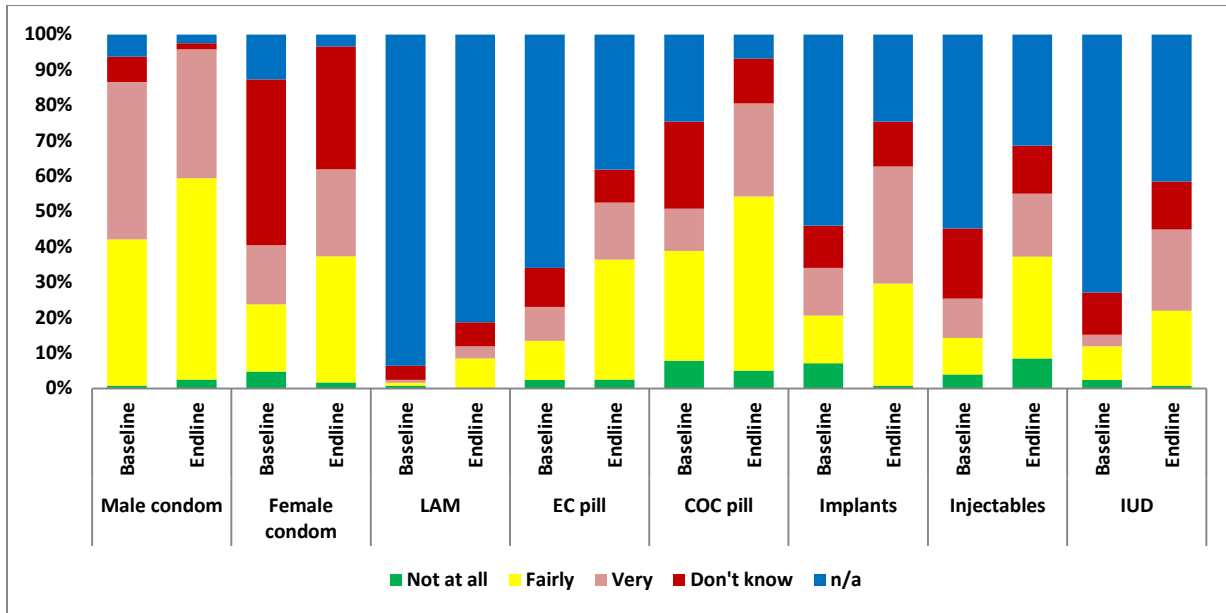


Figure 3.5.3: Percentage distribution of females with children by perceptions of the safety of FP methods at baseline and endline

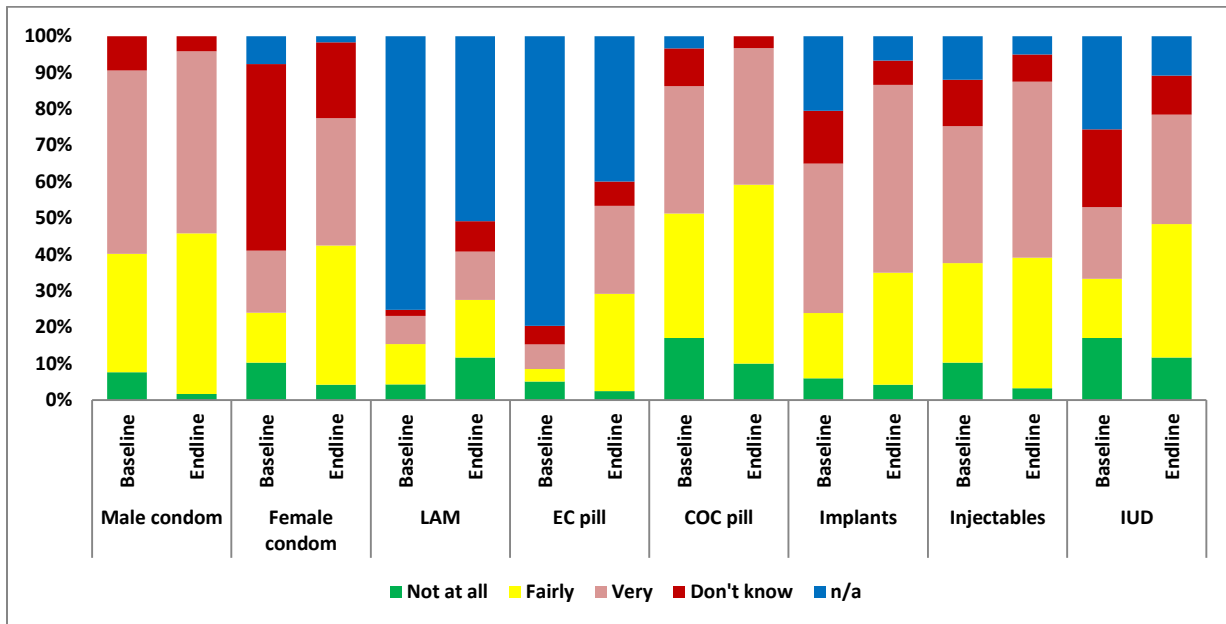
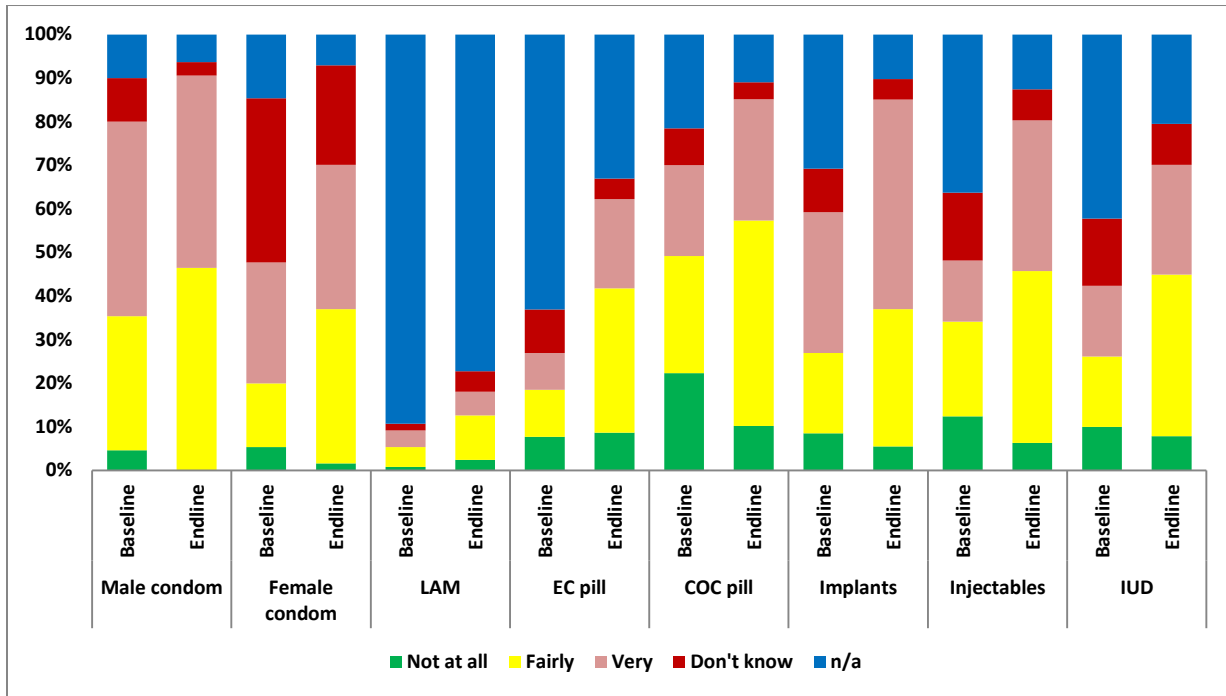


Figure 3.5.4: Percentage distribution of females without children by perceptions of the safety of FP methods at baseline and endline



3.3.2 Ease of Use of Methods

Data on perceptions of the ease of using the contraceptive methods are presented in figures 3.5.5, 3.5.6 and table 3.5.1 (for males) and figures 3.5.7, 3.5.8 and table 3.5.2 (for females). In figures 3.5.5-3.5.8, the areas of the bars shaded in yellow and pink represent the relative sizes of respondents who perceived the methods to be 'fairly easy to use' and 'very easy to use,' respectively, at baseline and endline. The figures and tables show significant increases in the percentages of male and female youth who perceived emergency contraception, implants, combined oral pills (males only), injectables, and the IUD to be **very easy** to use (see tables 3.5.1 and 3.5.2 for data on the magnitude of increase). The figures and tables also reveal that female youth were more likely than male youth to perceive a method as **very easy** to use.

Figure 3.5.5: Percentage distribution of males with children by perceptions on the ease of use of FP methods at baseline and endline

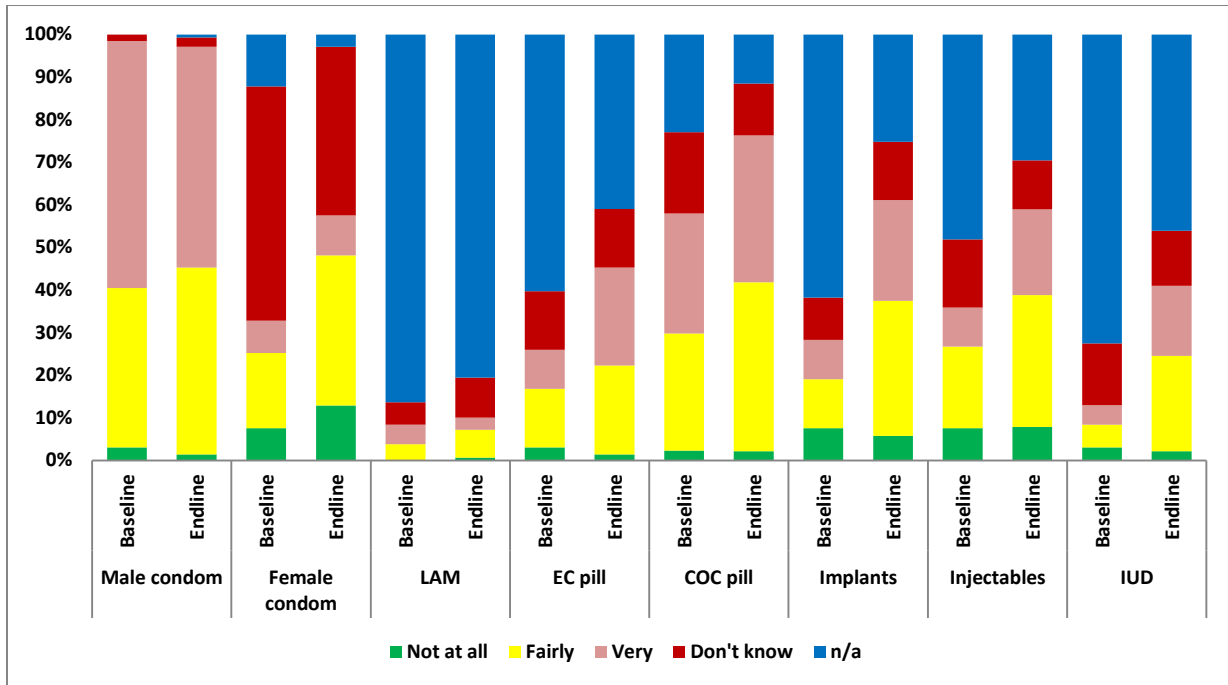


Figure 3.5.6: Percentage distribution of males without children by perceptions on the ease of use of FP methods at baseline and endline

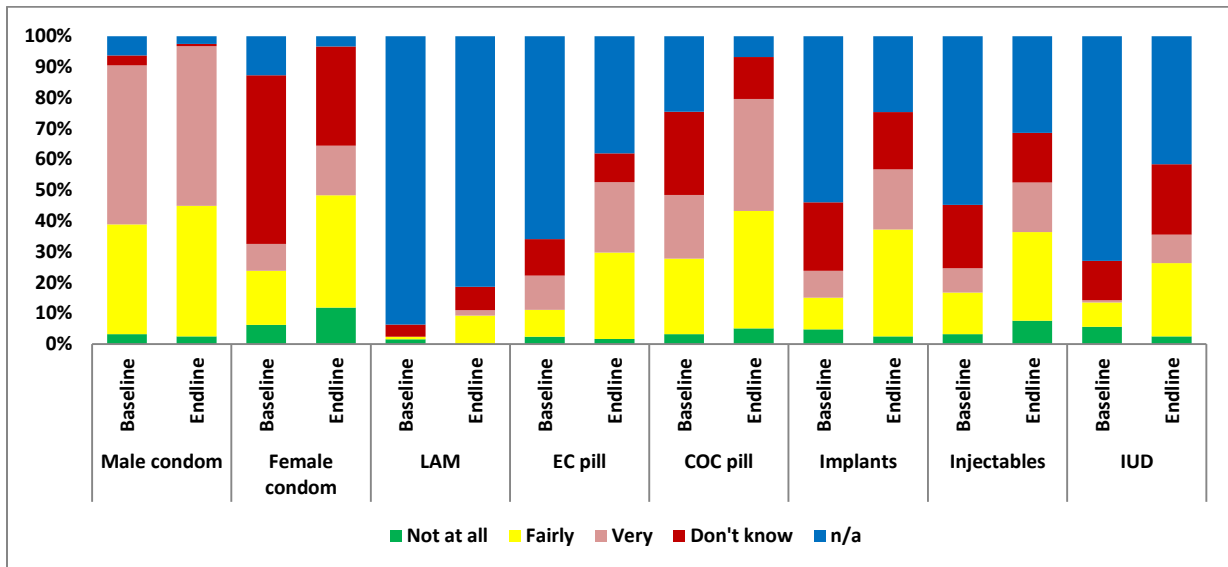


Figure 3.5.7: Percentage distribution of females with children by perceptions on the ease of use of FP methods at baseline and endline

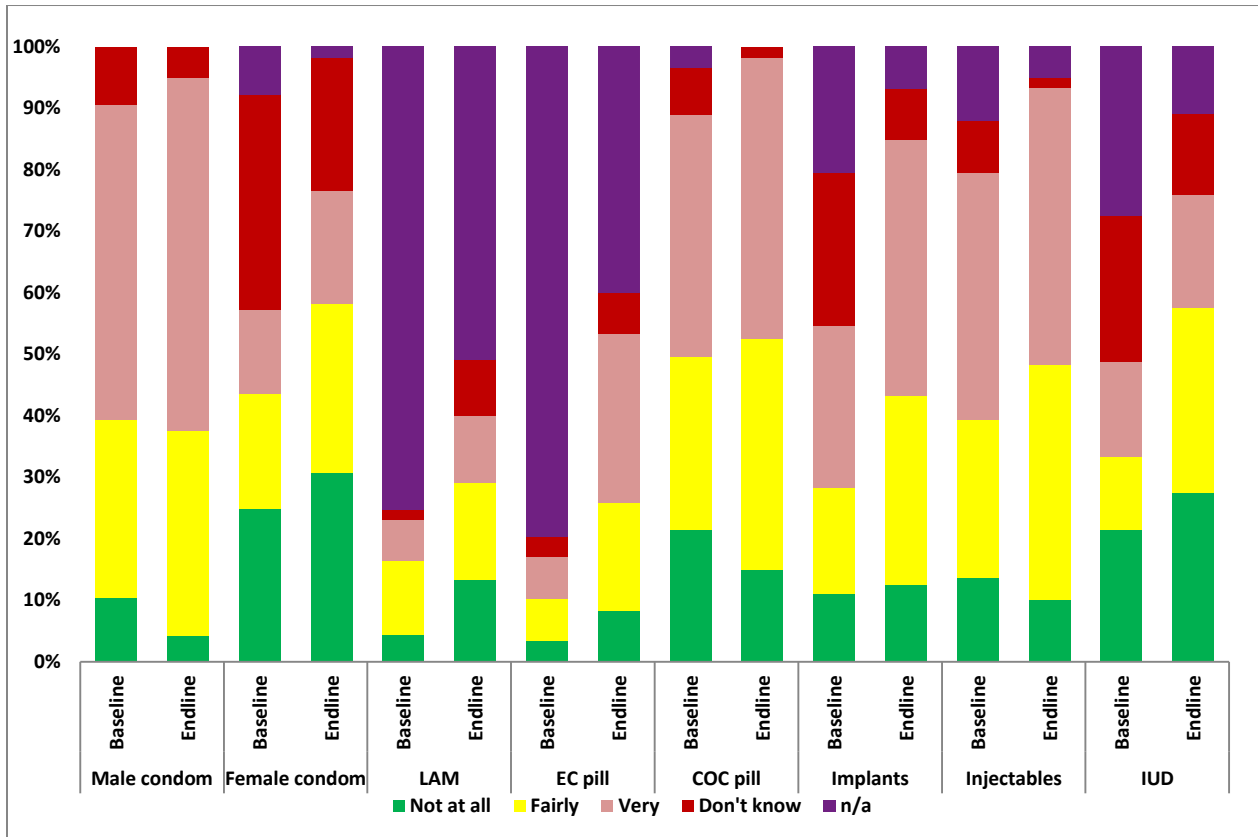
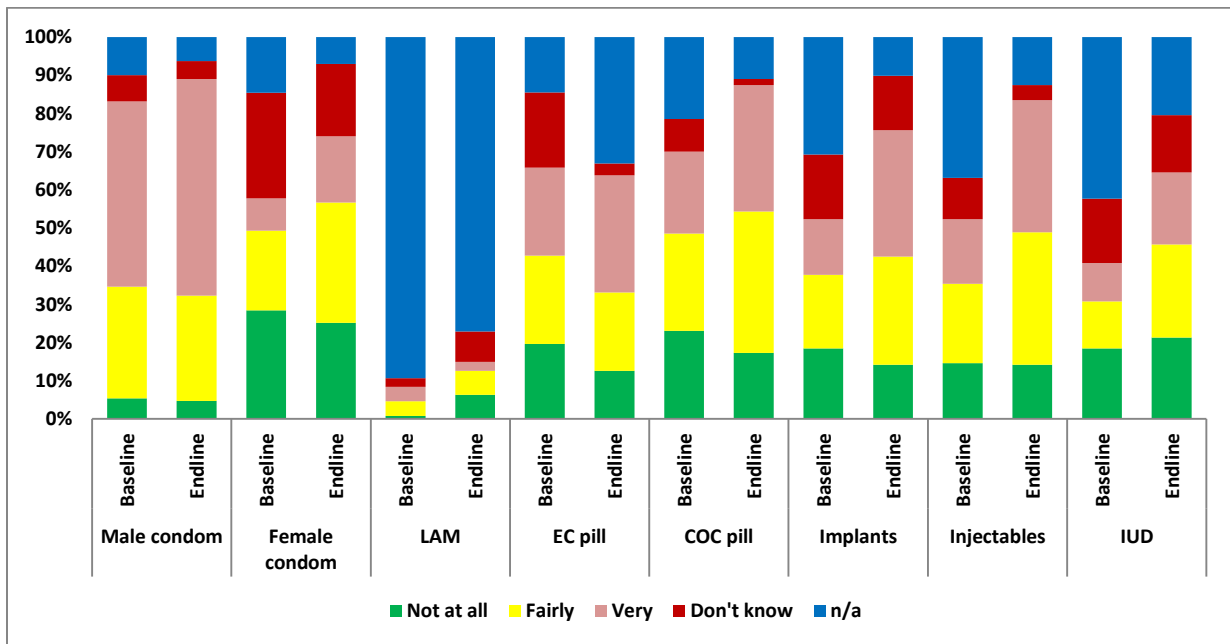


Figure 3.5.8: Percentage distribution of females without children by perceptions on the ease of use of FP methods at baseline and endline



3.3.3 Effectiveness of Methods

Data on perceptions of the effectiveness of the contraceptive methods are presented in figures 3.5.9, 3.5.10 and table 3.5.1 (for males) and figures 3.5.11, 3.5.12 and table 3.5.2 (for females). As in previous figures, the areas of the bars shaded in yellow and pink in figures 3.5.9-3.5.12 represent the relative sizes of respondents who perceived the methods to be ‘fairly effective’ and ‘very effective,’ respectively, at baseline and endline. The figures and tables show significant inter-survey increases in the percentages of male and female youth who perceived emergency contraception, implants, combined oral pills, and the IUD to be **very effective** (see tables for data on the magnitude of increase). The figures and tables also reveal that female youth were more likely than male youth to perceive a method as **very effective**.

Figure 3.5.9: Percentage distribution of males with children by perceptions on the effectiveness of FP methods at baseline and endline

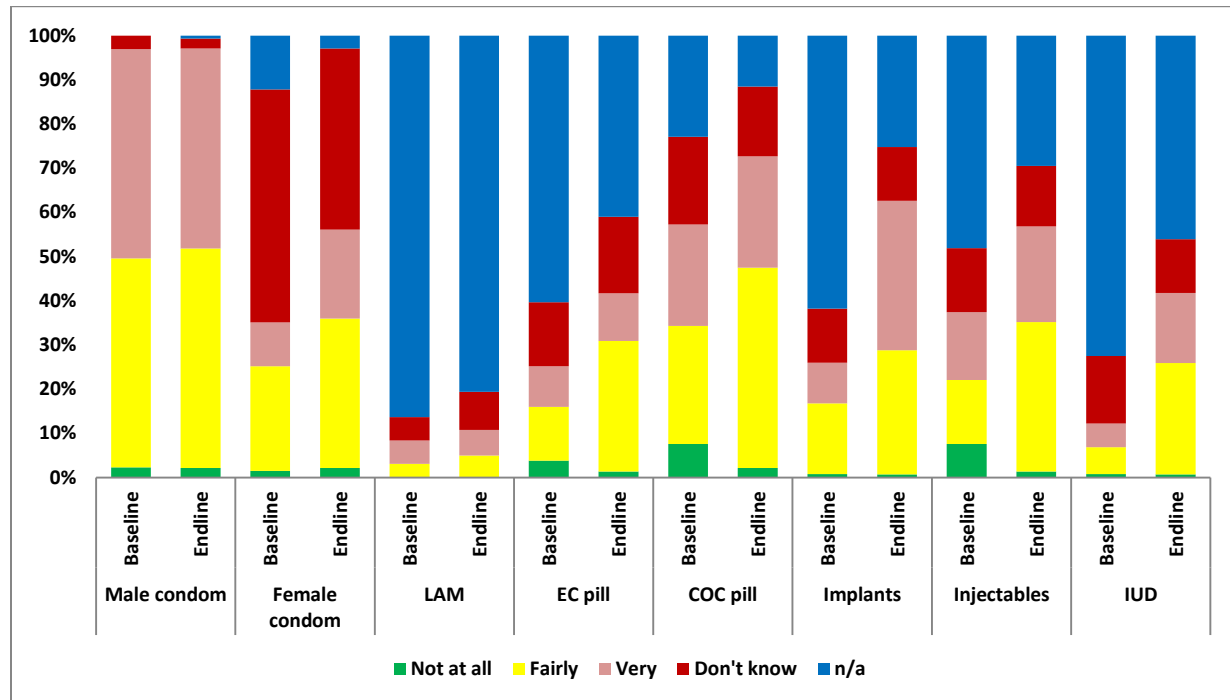


Figure 3.5.I0: Percentage distribution of males without children by perceptions on the effectiveness of FP methods at baseline and endline

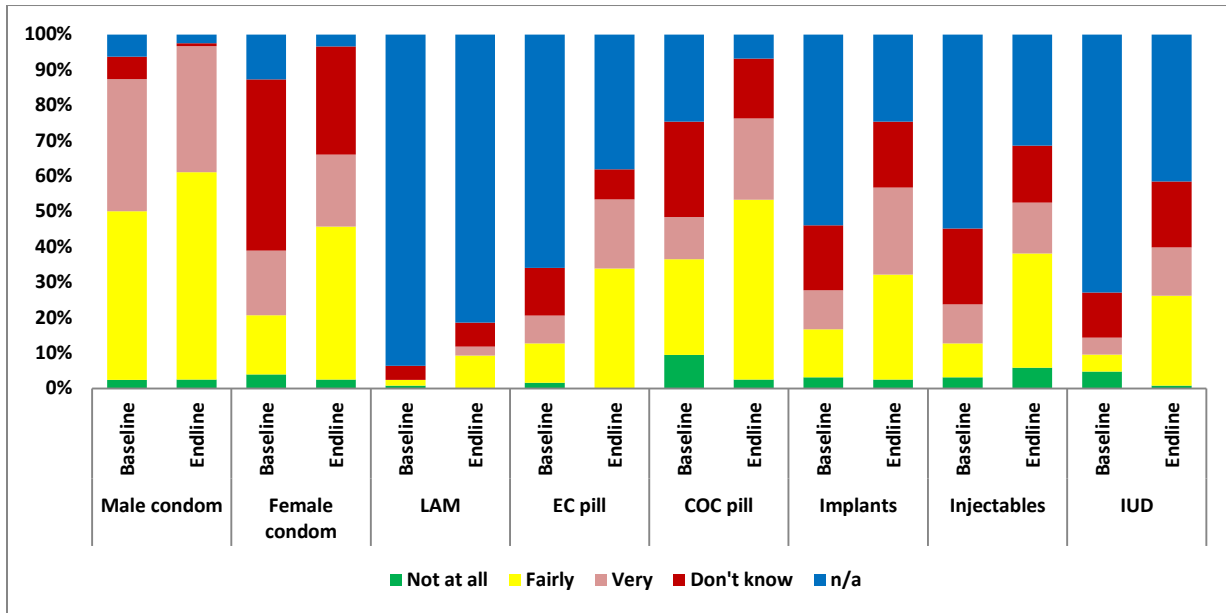


Figure 3.5.I1: Percentage distribution of females with children by perceptions on the effectiveness of FP methods at baseline and endline

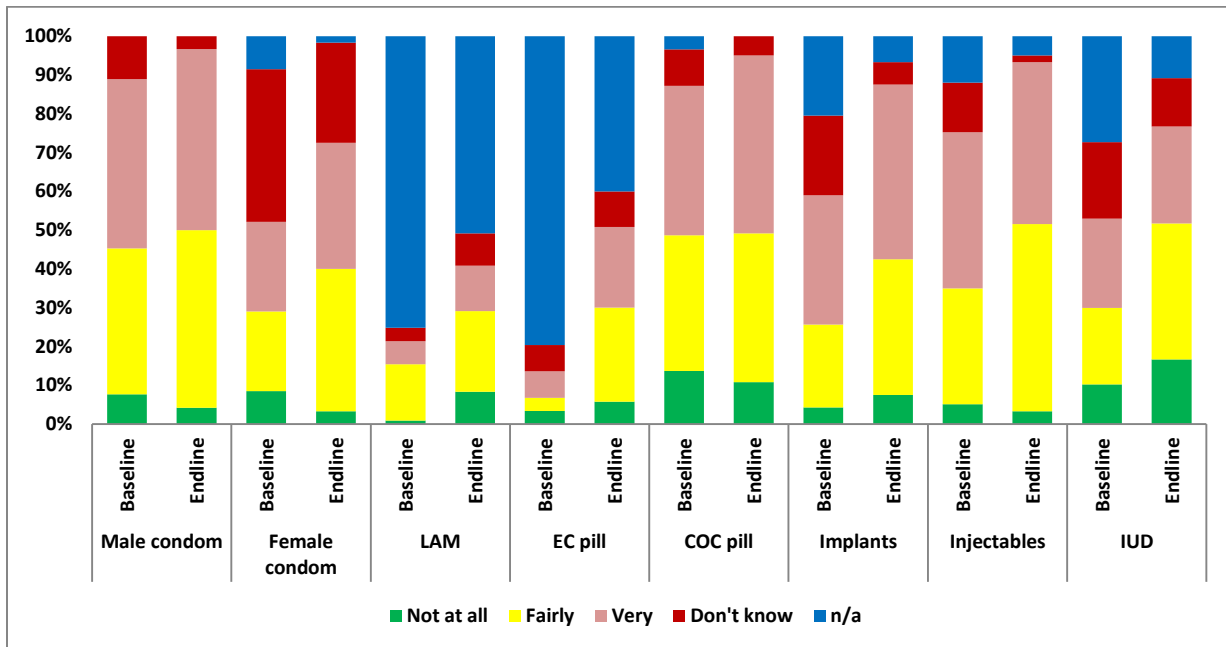
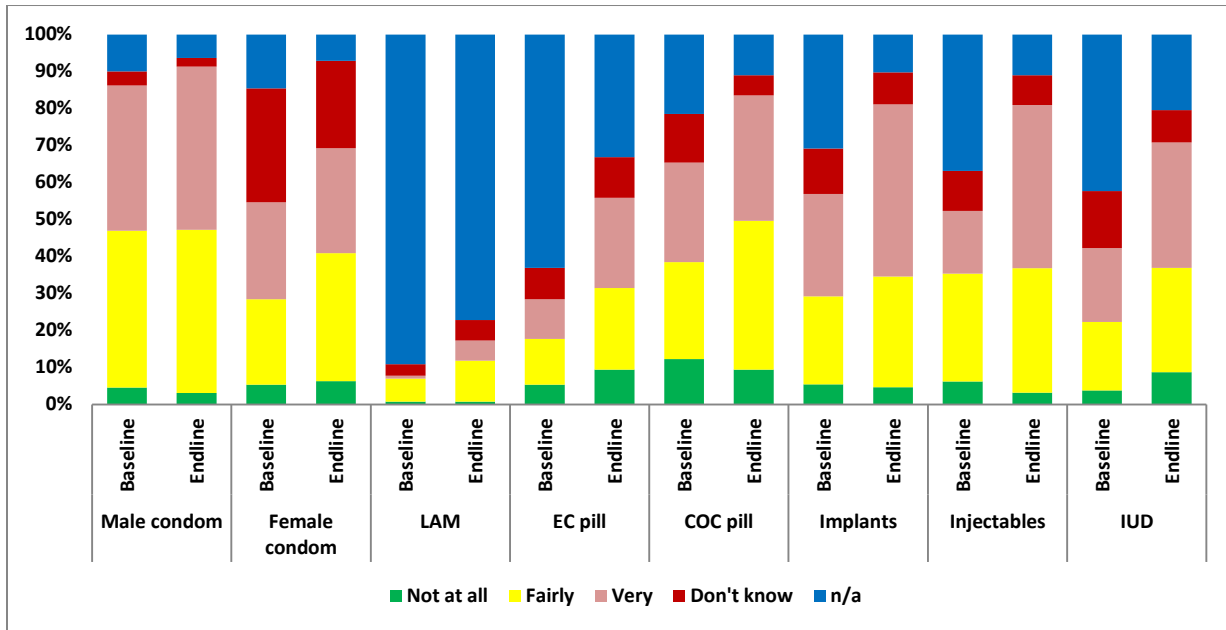


Figure 3.5.12: Percentage distribution of females without children by perceptions on the effectiveness of FP methods at baseline and endline



3.4 Contraceptive Method Use and Intention to Use

The use of contraceptive methods is examined in this section. Except for male condoms, information provided by male youth relates to their partner’s use of contraception. Contraceptive use was examined in three ways: lifetime ever use (except for the condom, which was measured as ever use in the 12 months preceding the survey); current use (at the time of the survey – during the month preceding the survey); and intention to use (continue to use) in the 12 months following the survey. The intention to use question was asked of all respondents irrespective of the use-status at the time of the survey. For current users, the question was meant to assess continuity in use, and among non-users, the question was designed to assess a change in behavior—a transition from non-users to users of contraceptive methods. As we did in the previous section, we examined changes in the contraceptive use indicators between the baseline and endline.

Ever Use

Data on ever use of contraceptive methods are presented in figures 3.6.1, 3.6.2 and table 3.6.1 (for males) and figures 3.6.3, 3.6.4 and table 3.6.2 (for females). Although the figures and table show some inter-survey increases in ever use, except for combined oral pills and emergency contraception pills (among females with children), the increases were not statistically significant. This is not unexpected considering the short interval between baseline and endline. Among female respondents, those with children were more likely to report ever use of oral contraceptive pill, implant and injectables. Among male respondents those with children were also more likely to report that their partners had ever used emergency contraception, oral contraceptive pill, implant and injectables.

Figure 3.6.1: Percent of male youth with children who have ever used selected methods of contraception at baseline and endline

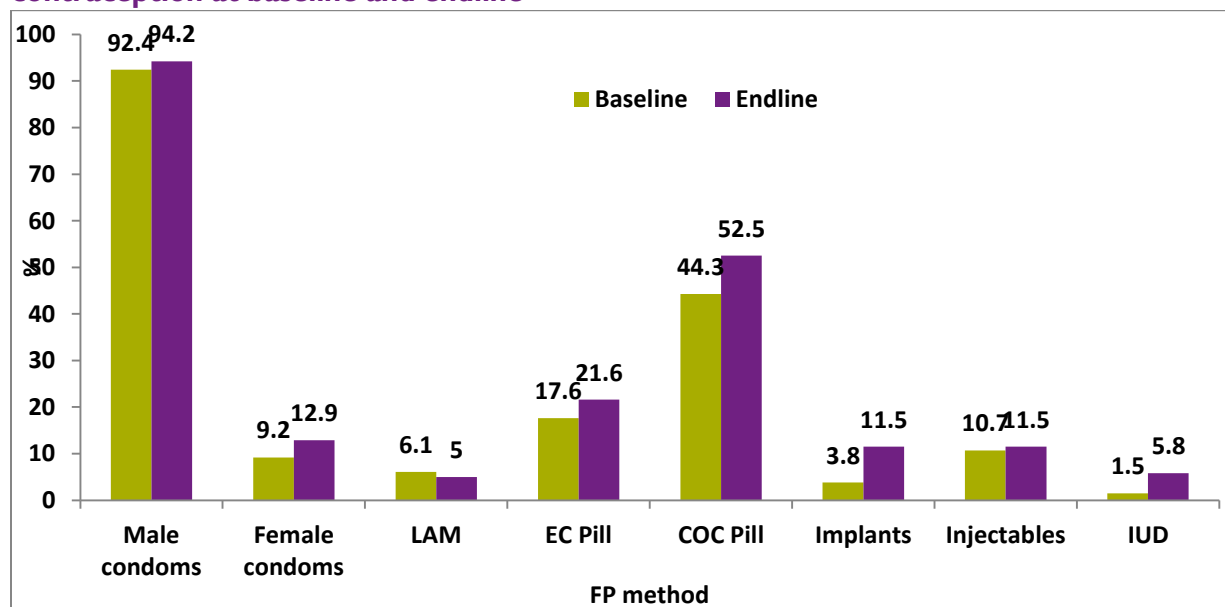


Figure 3.6.2: Percent of male youth without children who have ever used selected methods of contraception at baseline and endline

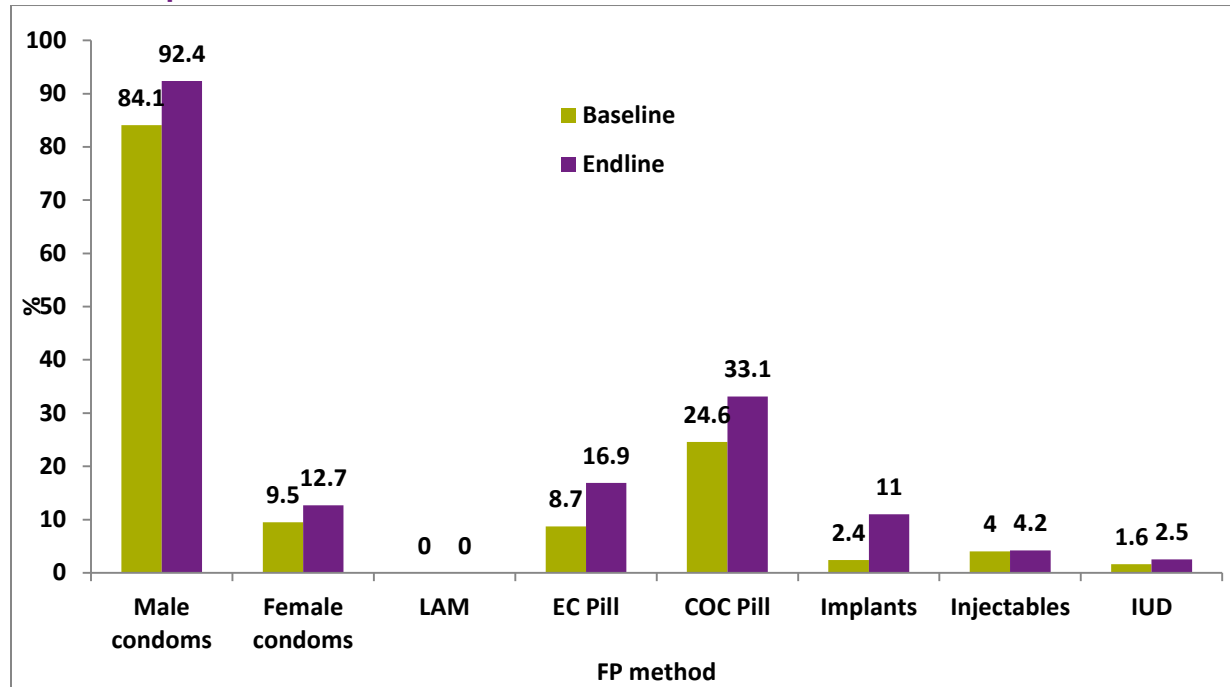
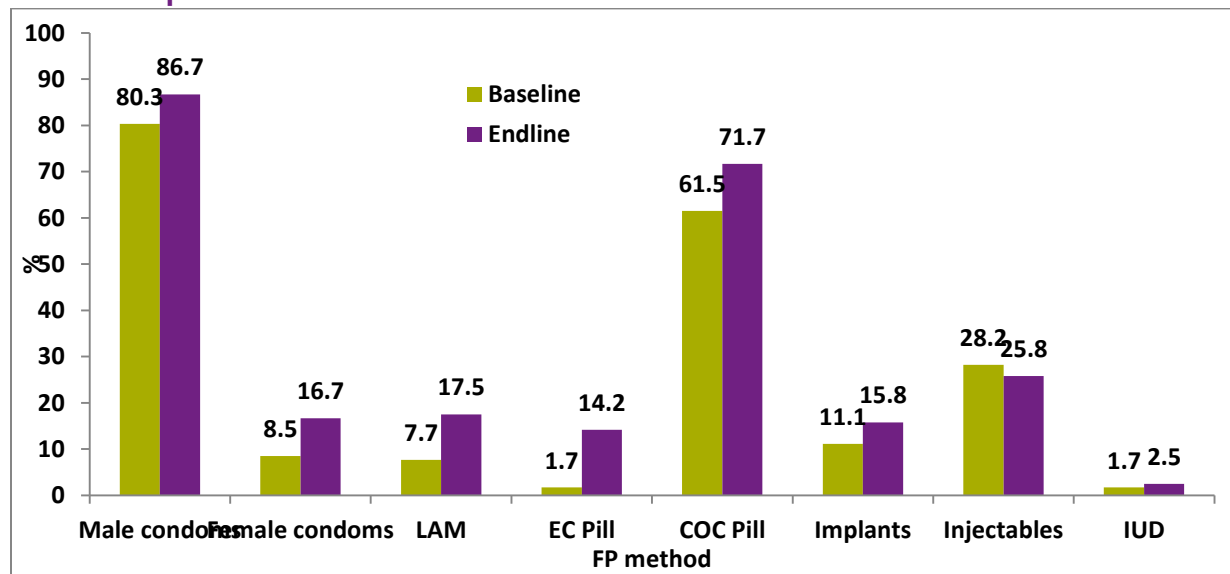
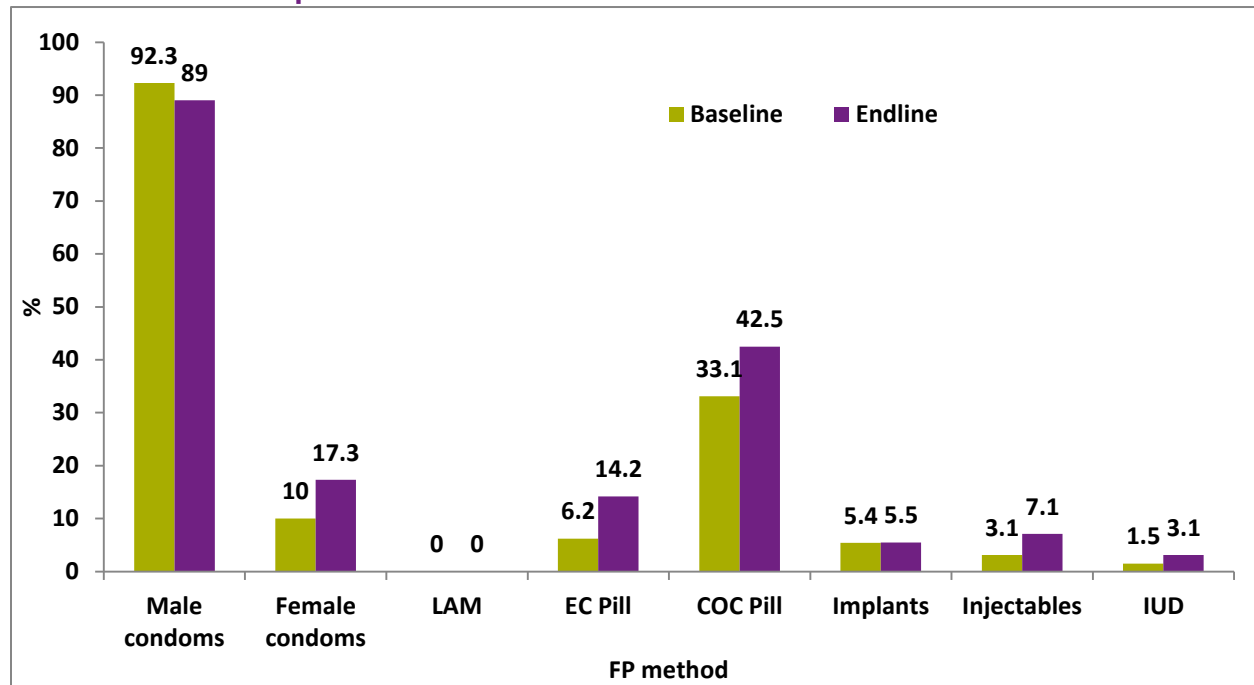


Figure 3.6.3: Percent of female youth with children who have ever used selected methods of contraception at baseline and endline¹³



¹³ The decline in ever-use of injectables could result from a better understanding of the difference between injectable and implants at endline due to exposure to the SMS intervention. What was reported as injectables at baseline might have been reported as implants at endline due to better understanding of what the two methods are at endline.

Figure 3.6.4: Percent of female youth without children who have ever used selected methods of contraception at baseline and endline



Current Use

Respondents were asked to state whether they (or their partner) were using a contraceptive method at the time of the baseline and endline surveys. Current use was not measured for LAM among respondents without children and for the EC pill among all respondents. Data on current use of contraceptive methods are presented in figures 3.6.5, 3.6.6 and table 3.6.1 (for males) and figures 3.6.7, 3.6.8 and table 3.6.2 (for females). Among male youth, current use of a method increased significantly only for partner's use of combined oral pills. Among female youth, current use increased significantly only for male condom and combined oral pills, and these significant increases were observed only among female youth with children. As with ever use, the statistically insignificant increases in current use should not be unexpected in view of the short interval between baseline and endline. Among female respondents, those with children were more likely to report current use of oral contraceptive pill, implant (particularly at endline) and injectables. Reports of current use of any method did not differ much between the two groups of male respondents.

Figure 3.6.5: Percent of male youth with children who were using selected methods of contraception at the time of baseline and endline

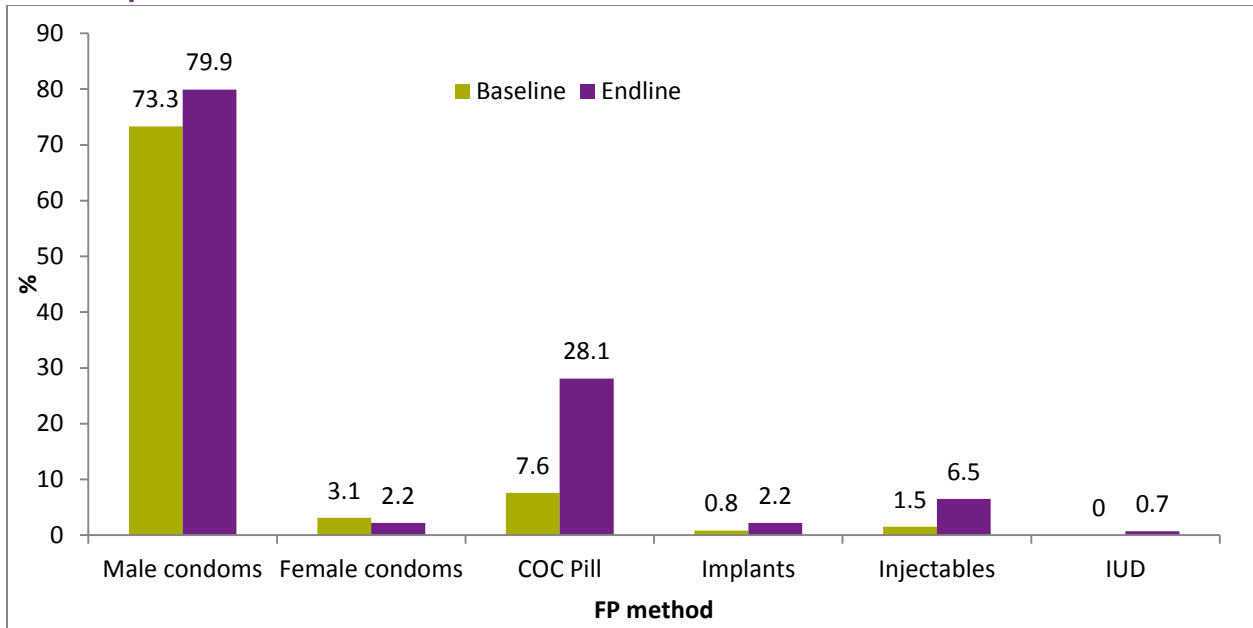


Figure 3.6.6: Percent of male youth without children who were using selected methods of contraception at the time of baseline and endline

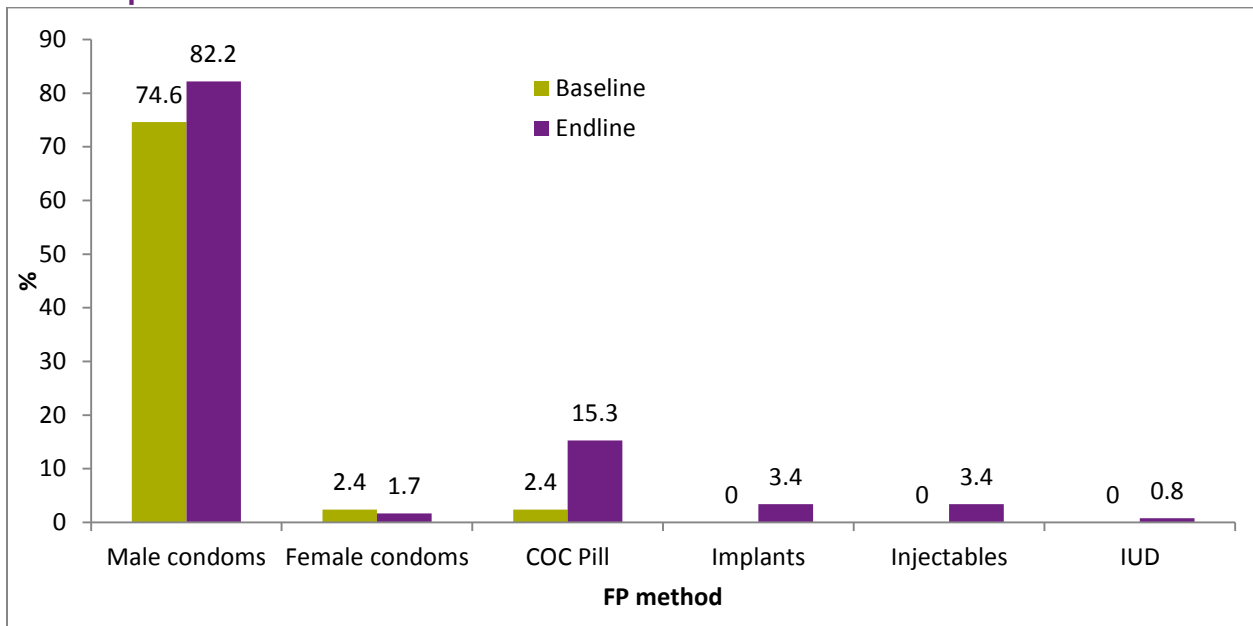


Figure 3.6.7: Percent of female youth with children who were using selected methods of contraception at the time of baseline and endline

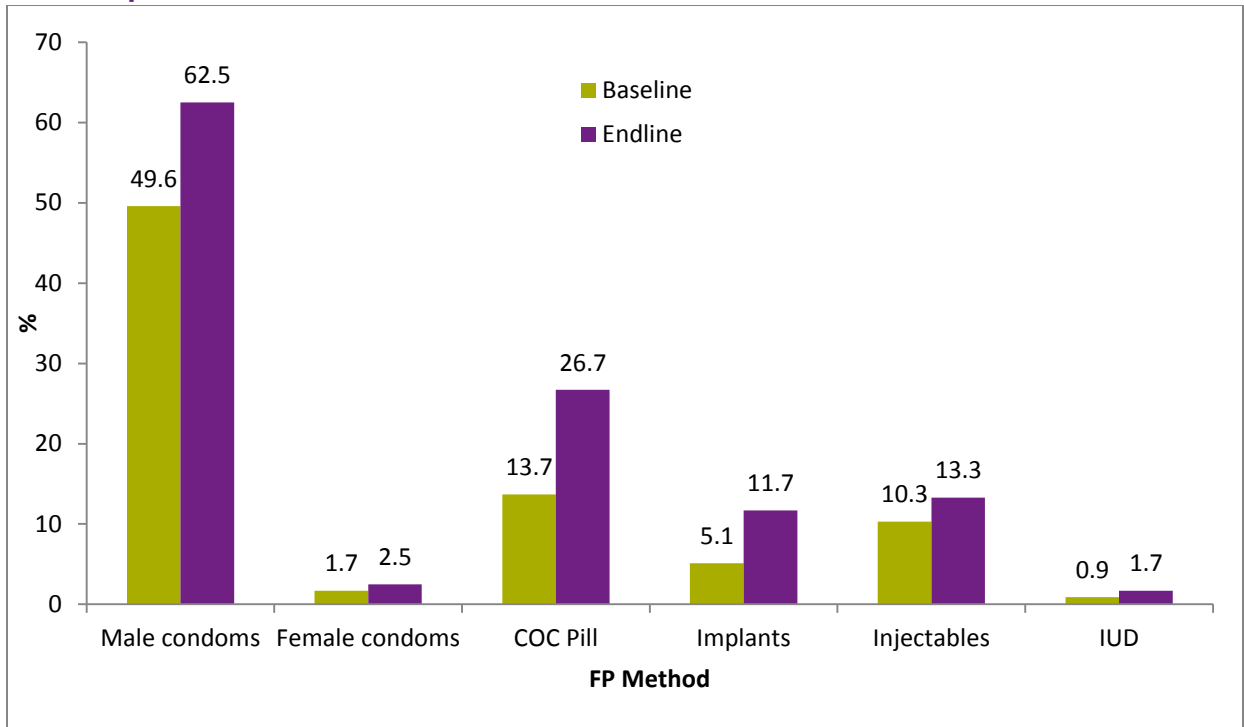
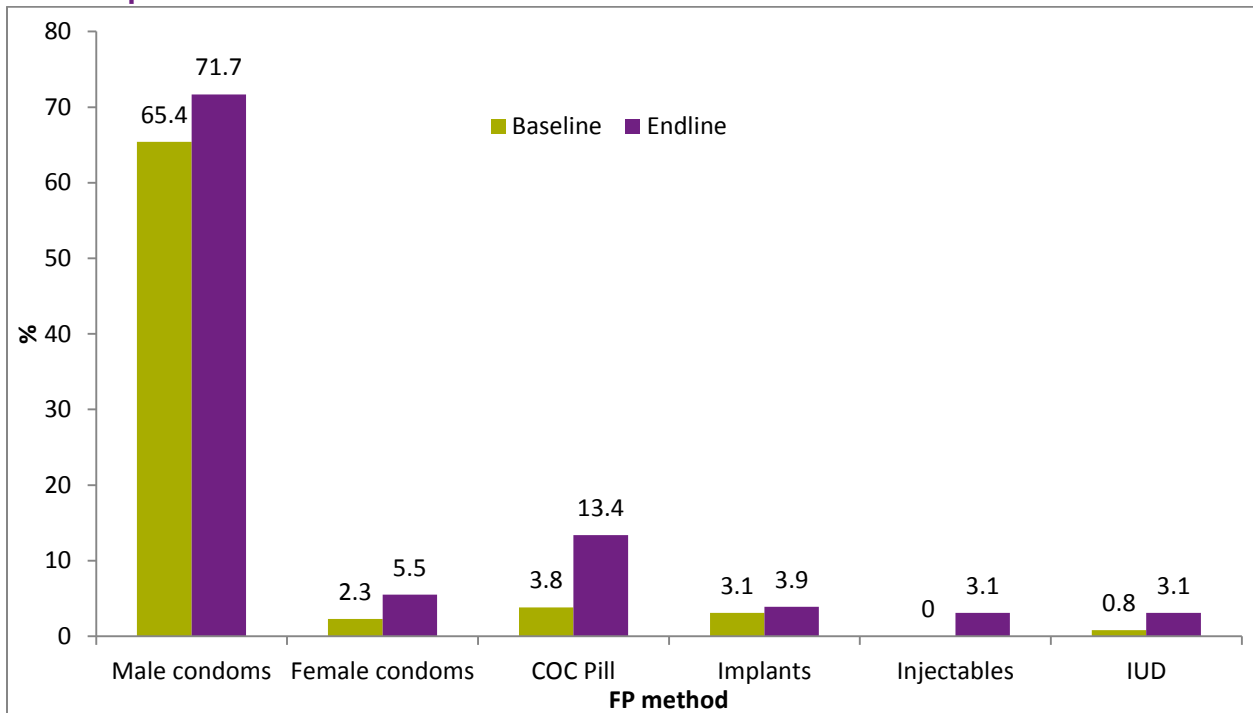


Figure 3.6.8: Percent of female youth without children who were using selected methods of contraception at the time of baseline and endline



Intention to Use a Contraceptive Method

For female respondent, the question on intention to use is “How likely is it that you will use a contraceptive method during the next 12 months?” and for males the question is “How likely is it that you will support your partner to use a contraceptive method during the next 12 months? As indicated above, the question on intention to use a contraceptive method was asked to assess desire for continuity in use among current users and a change in behavior among non-users—a transition from non-users to users of contraceptive methods. We examined intention to use separately for respondents who reported to be using a method at the time of the surveys and those who reported to not using a method at the time of the surveys (see tables 3.6.3 and 3.6.4 in the annex). The tables show that:

- Intention to use a contraceptive method during the twelve months following the surveys was high among male and female respondents, whether or not they had children or reported to be using or not using a method at the time of the surveys.
- There were significant increases in the intention to use a method during the year following the surveys among males without children who reported to be using a method at the time of the surveys, and, among females without children who reported to not using a method at the time of the surveys. Among males, the percentage reporting intention to use a method during the 12 months following the endline survey was higher among those who reported to be using a method at the time of the survey, whether or not they had children; among females, the percentages reporting intention to use a method in the twelve months following the endline survey did not differ by whether or not respondents were using a method at the time of the surveys.
- Except among females with children who reported to not using a method at the time of the surveys, the most preferred method in the twelve months following the endline survey is the male condom; for females with children who reported to not using a method at the time of the endline surveys, the most preferred method in the twelve months following the endline survey is implant. The percentage reporting intention to use a male condom declined among male respondents with children who reported to be using a method at the time of the survey and increased among male and female respondents, with or without children who reported to not using a method at the time of the survey. The intention to use implant increased significantly among males with children who reported either to be using or not using a method at the time of the surveys. The intention to use combined oral contraception pill declined among male and female respondents with children who reported to not using a method at the time of the surveys.
- The interventions contributed to some increases in intention to use a method in the future.

3.5 Contraception Attitudes, Beliefs, and Outcome Expectations

To further examine the attitudes, beliefs, and outcome expectations of respondents regarding contraception, respondents were asked to agree or disagree with a set of statements related to who can/should use contraception, appropriateness of other methods besides condoms, perceptions of men who refuse to use condoms, and the effects of contraception on the respondent’s health, sex, and education. Again, just as we noted for perceptions, respondents’ attitudes, beliefs, and outcome expectations can affect their likelihood of adopting/using contraception. Data on attitudes, beliefs, and outcome expectation are provided in figures 3.7.1, 3.7.2, 3.7.5, 3.7.6 and table 3.7.1 (for male youth) and figures 3.7.3, 3.7.4, 3.7.7, 3.7.8 and table 3.7.2 (for female youth). In figures 3.7.1-3.7.4, the areas of the bars shaded in pink or yellow represent the relative sizes of respondents who agreed with the statements while those areas shaded in light green or red represent the relative sizes of respondents who disagreed with the statements. Increases in the percentages of respondents who agreed with the statements during the SMS interventions are depicted by increases in the sizes of the pink or yellow at endline, and vice versa.

Figures 3.7.1–3.7.4 and tables 3.7.1 and 3.7.2 show that the respondents became better informed about contraception and its effects during the intervention. For instance, between baseline and endline:

- The percentages of youth who held the view (that is, strongly agree or agree) that use of a contraceptive method will make it difficult to have children after stopping use declined significantly by 13 percentage points among male youth with children, 18 percentage points among male youth without children, and 13 percentage points among female youth without children.
- Among female youth, the percentage who agreed (strongly agree or agree) that it is okay for a young married woman to use other contraceptive methods besides condoms increased significantly, by about 11 percentage points (among those with children) and 12 percentage points (among those without children).
- The percentages of youth who agreed (strongly agree or agree) that it is okay for a young unmarried woman to use other contraceptive methods besides condom increased significantly among male youth without children by about 15 percentage points. Although there were increases in the percentages of youth who believed (strongly agree or agree) that a young woman with a new/nursing baby can use a contraceptive method with no health risk to baby or mother; the increases were significant only among male youth with children (16 percentage points), and male youth without children (18 percentage points).
- There were significant increases in the percentages of youth who held the view (strongly agree or agree) that contraception will likely contribute to improved health of mother and baby. The percentages increased by about 12 percentage points among male youth with children, 18 percentage points among male youth without children, and 15 percentage points among female with children.
- The percentages of youth with the view (that is, strongly agree or agree) that contraception would likely increase opportunities for further education increased significantly between the two surveys only among male youth without children (15 percentage points).
- High percentages of youth (close to 7 of 10 youth across the four groups) hold the view that it is necessary to prohibit sex for more than six months after childbirth; the percentages did not increase significantly between the surveys.
- On who should decide whether a woman should use a contraceptive method, female youth (with and without children) were more likely than their than male counterparts to report that the woman should be the only decision-maker, and the percentages reporting that the woman should be the only decision maker increased between baseline and endline. Among female youth with children the percentage expressing the view that the woman should be the sole decision-maker increased from 43.6% at baseline to 60% at endline, and among female youth without children, the percentage increased from 49.2% to 59.8%.

Figure 3.7.1: Percent distribution of males with children by attitudes, beliefs, and outcome expectancies towards family planning at baseline and endline

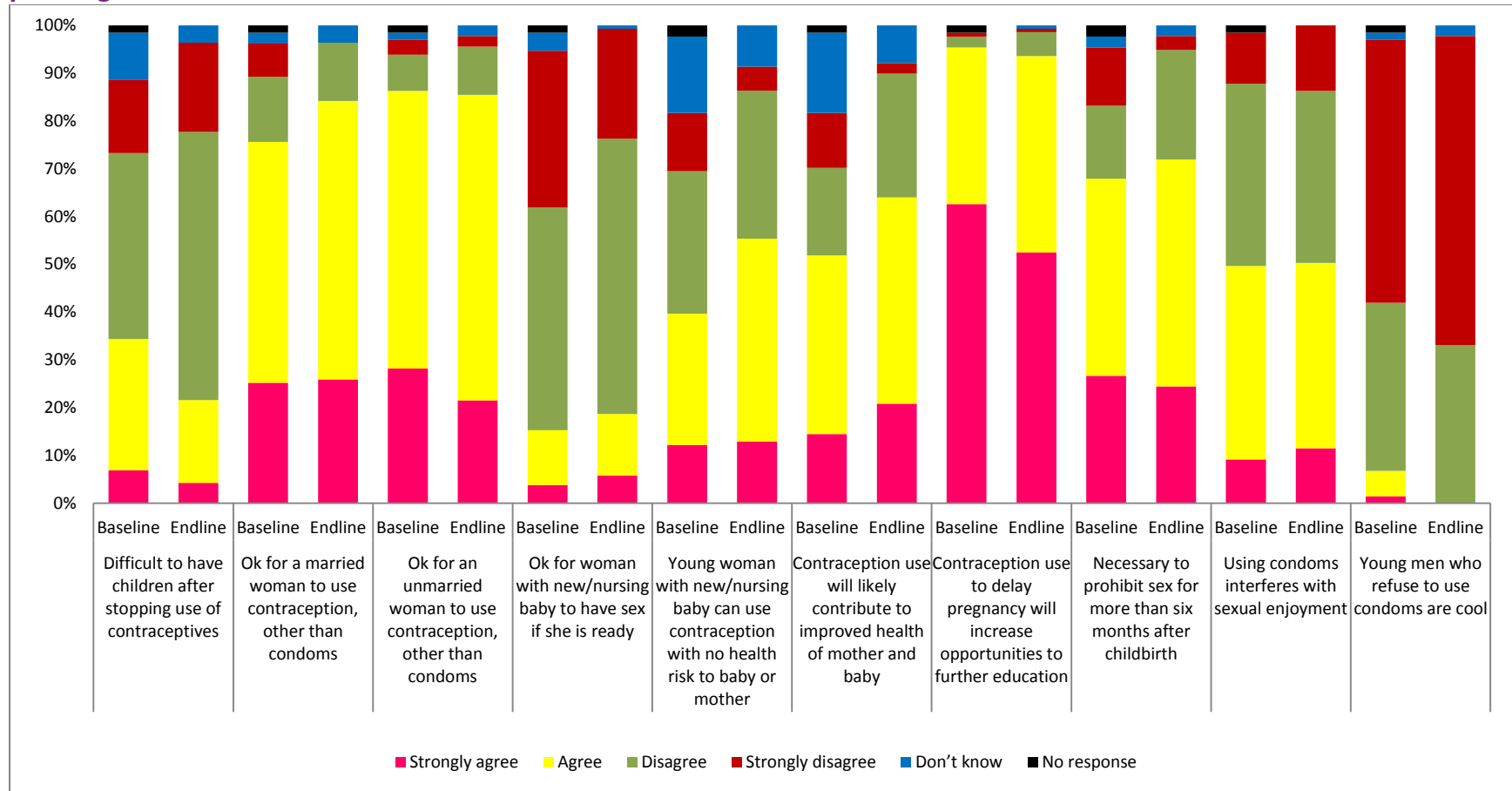


Figure 3.7.2: Percent distribution of males without children by attitudes, beliefs, and outcome expectancies towards family planning at baseline and endline

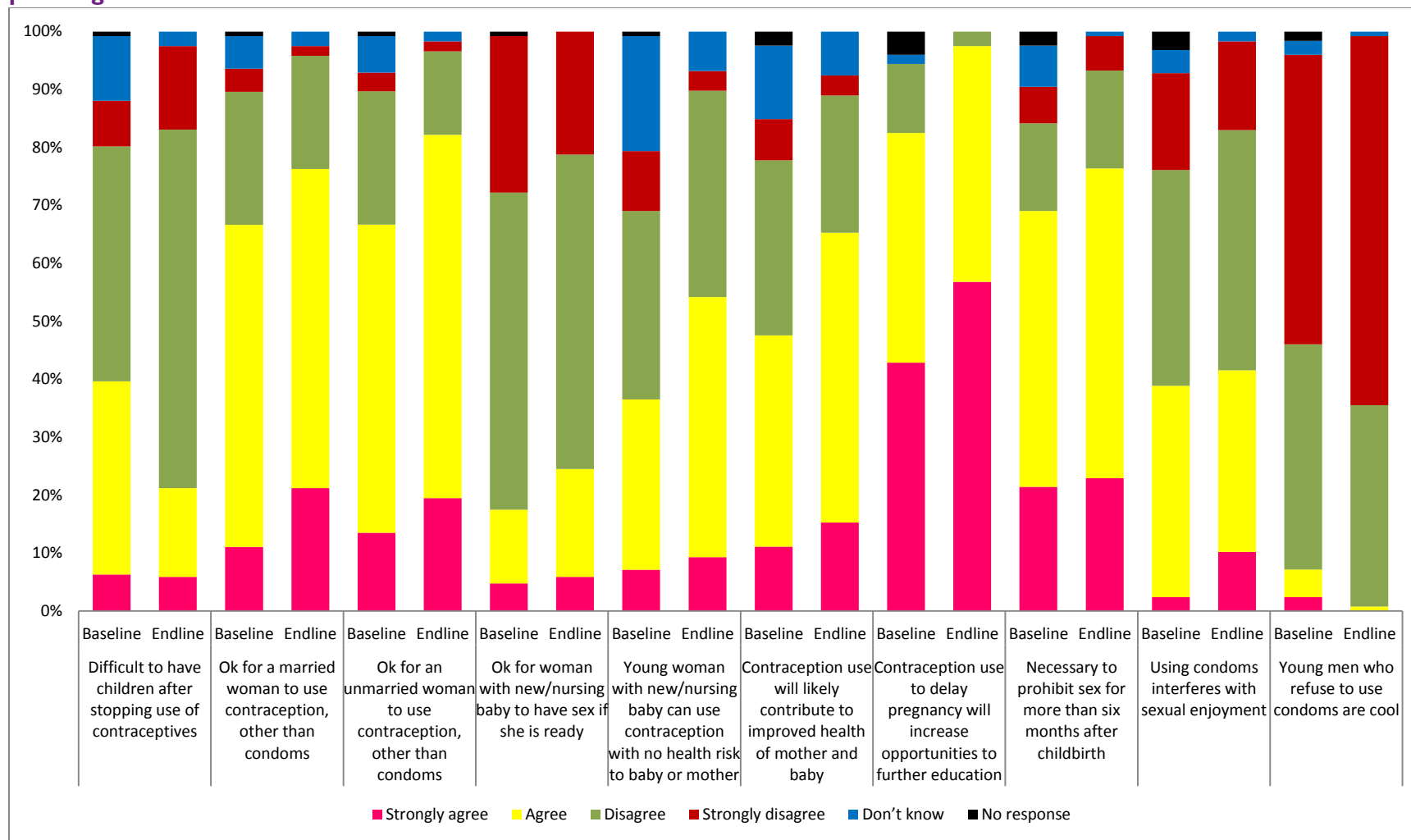


Figure 3.7.3: Percent distribution of females with children by attitudes, beliefs, and outcome expectancies towards family planning at baseline and endline

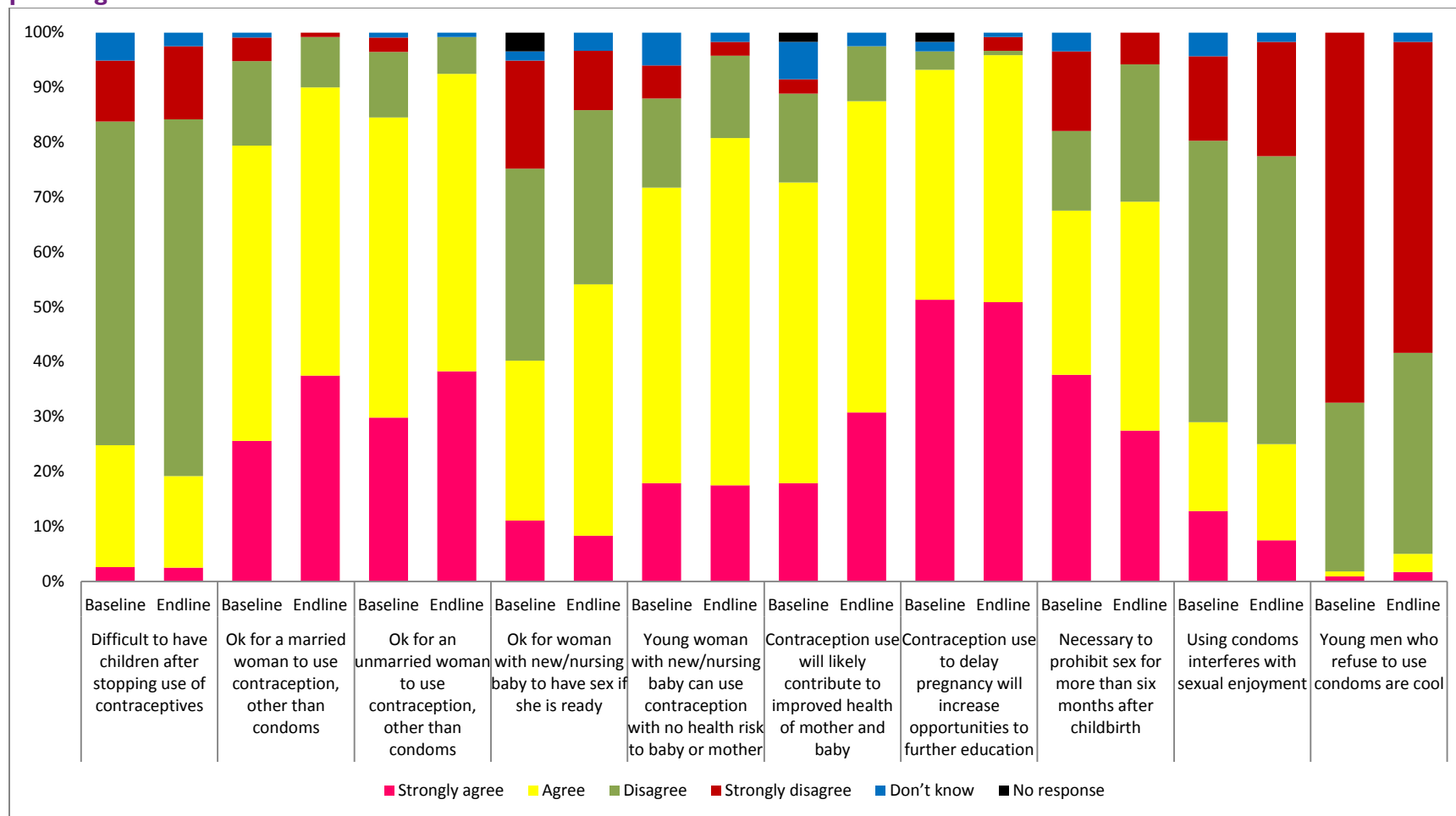
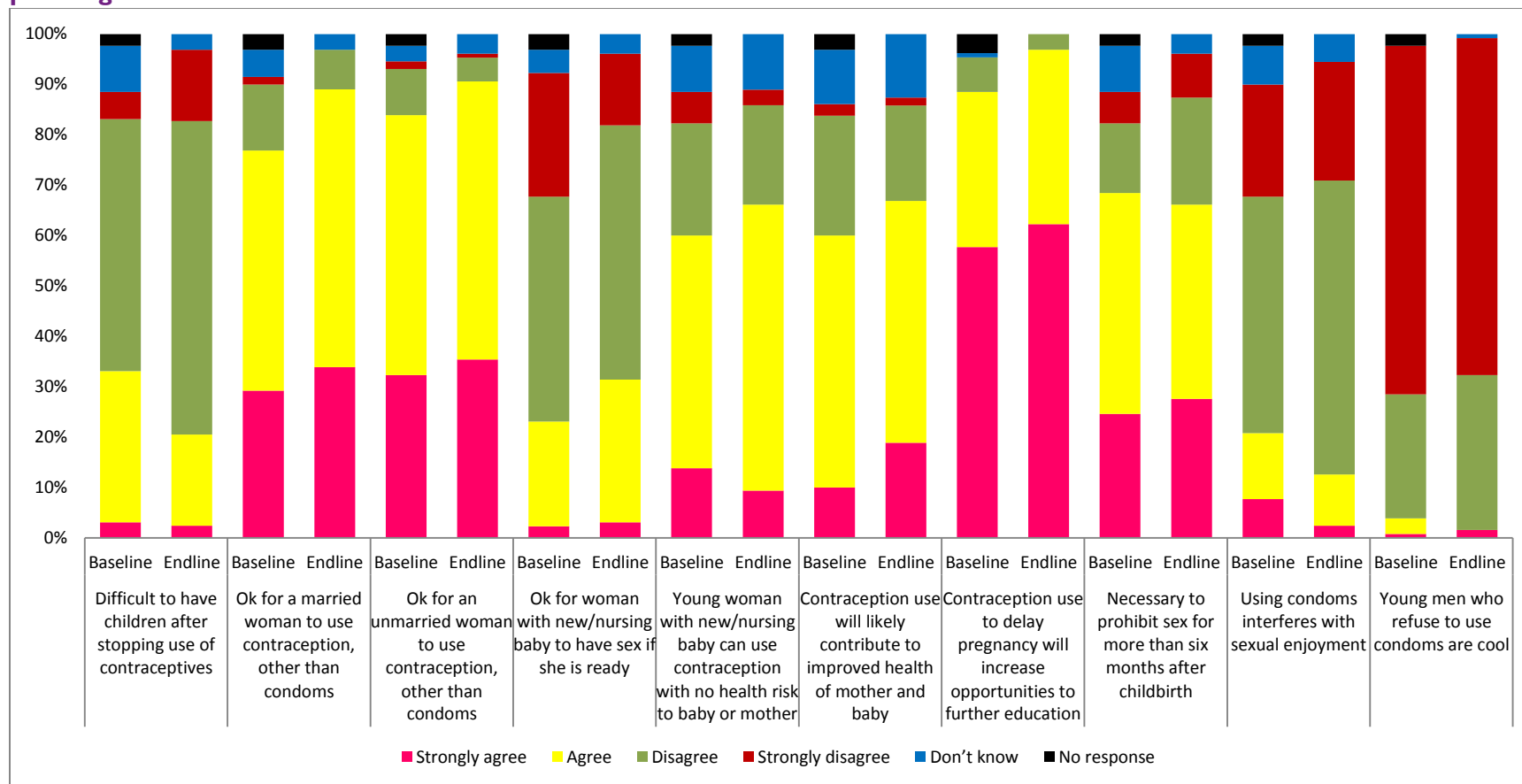


Figure 3.7.4: Percent distribution of females without children by attitudes, beliefs, and outcome expectancies towards family planning at baseline and endline



On who should decide whether a woman should use a contraceptive method, female youth (with and without children) were more likely than their male counterparts to report that the woman should be the only decision-maker, and the percentages reporting that the woman should be the only decision maker increased between baseline and endline. Among female youth with children the percentage expressing the view that the woman should be the sole decision-maker increased from 43.6% at baseline to 60% at endline, and among female youth without children, the percentage increased from 49.2% to 59.8%.

Figure 3.7.5: Percent distribution of males with children by preferred decision maker on family planning at baseline and endline

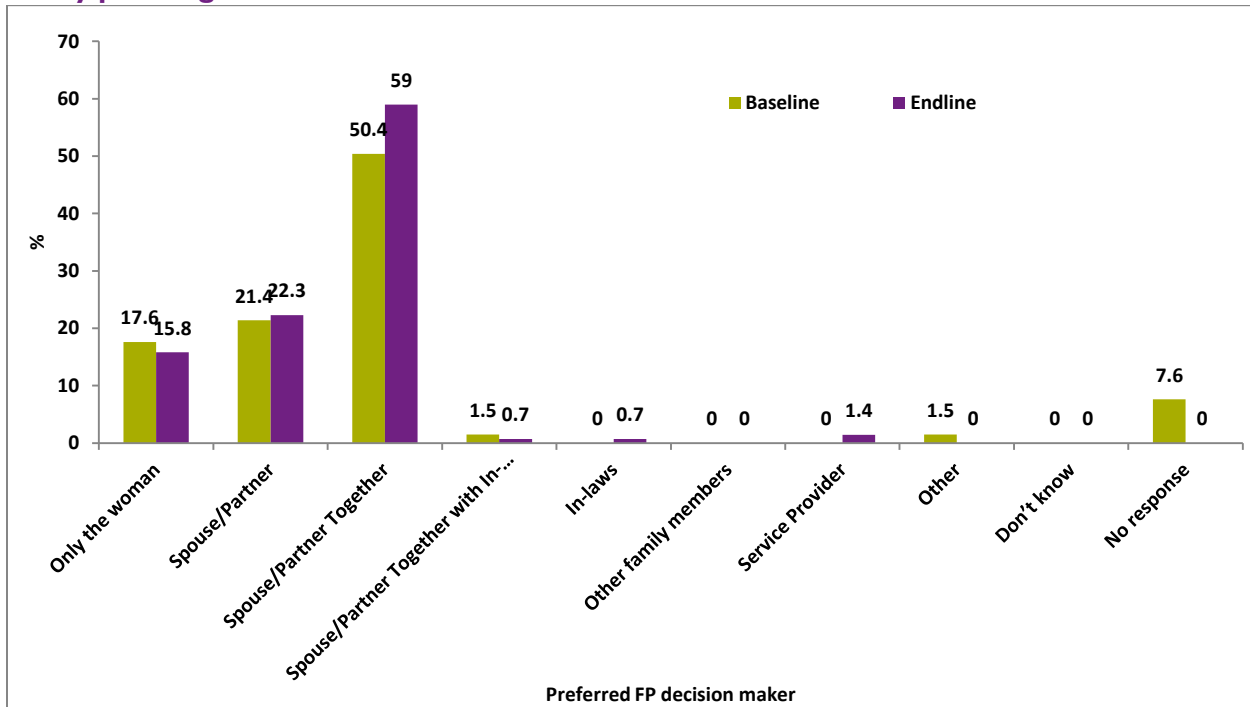


Figure 3.7.6: Percent distribution of males without children by preferred decision maker on family planning at baseline and endline

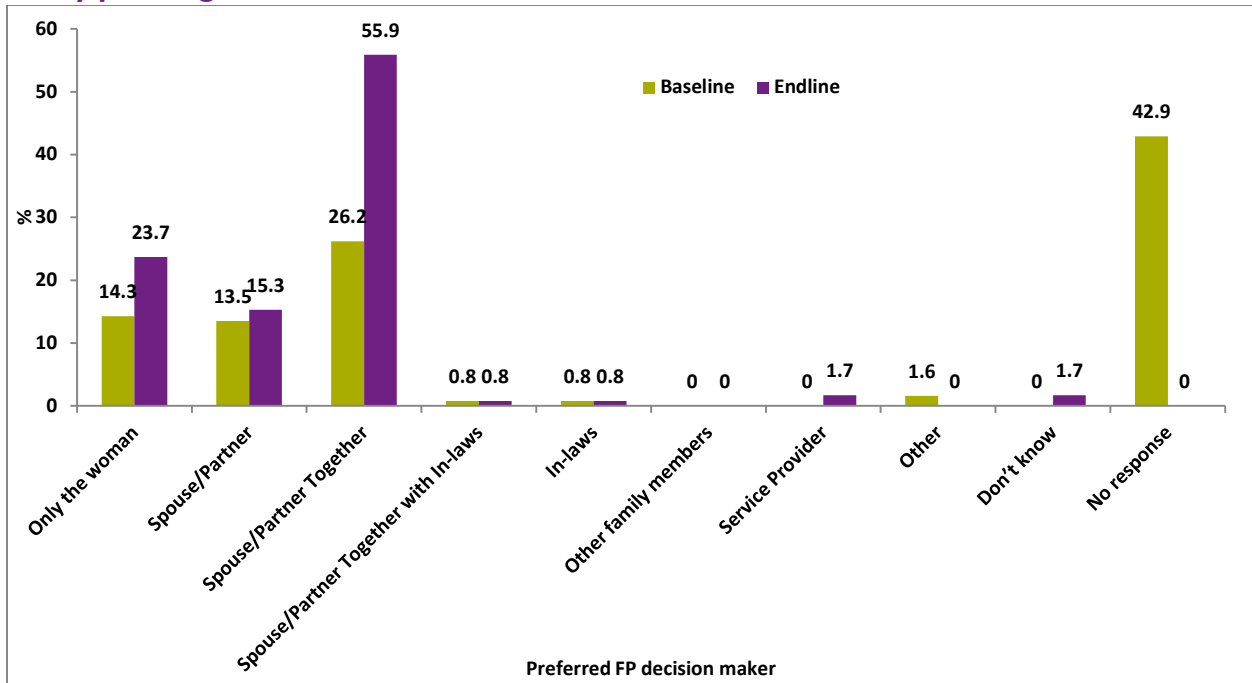


Figure 3.7.7: Percent distribution of females with children by preferred decision maker on family planning at baseline and endline

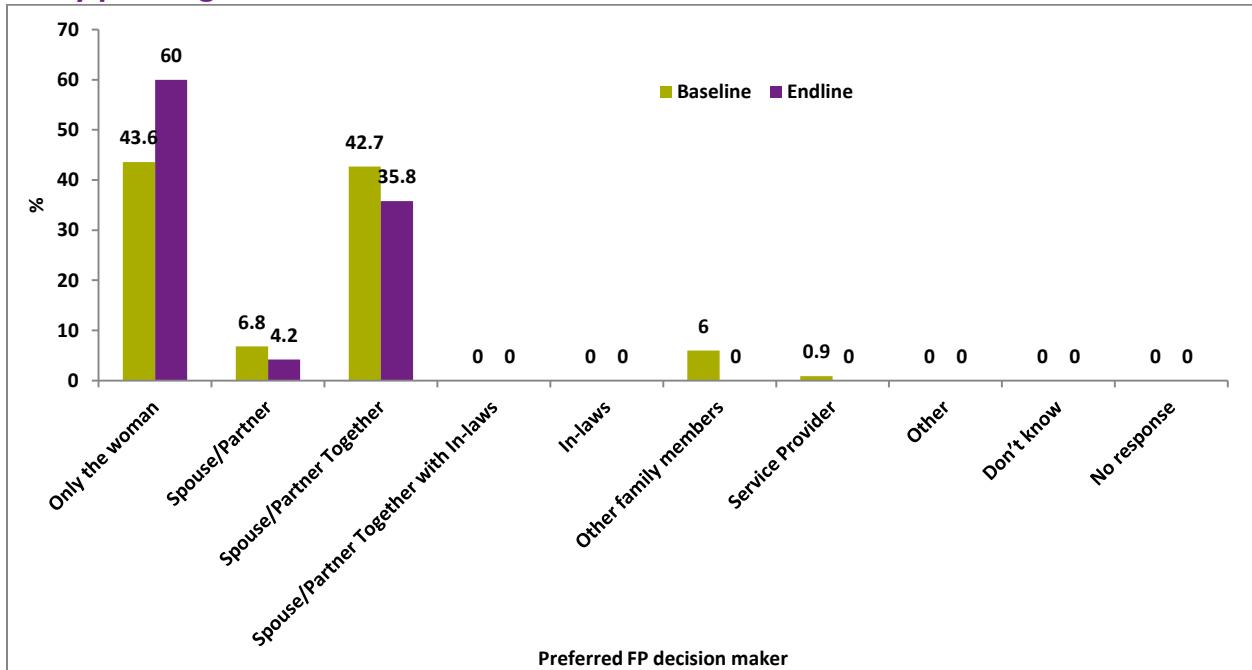
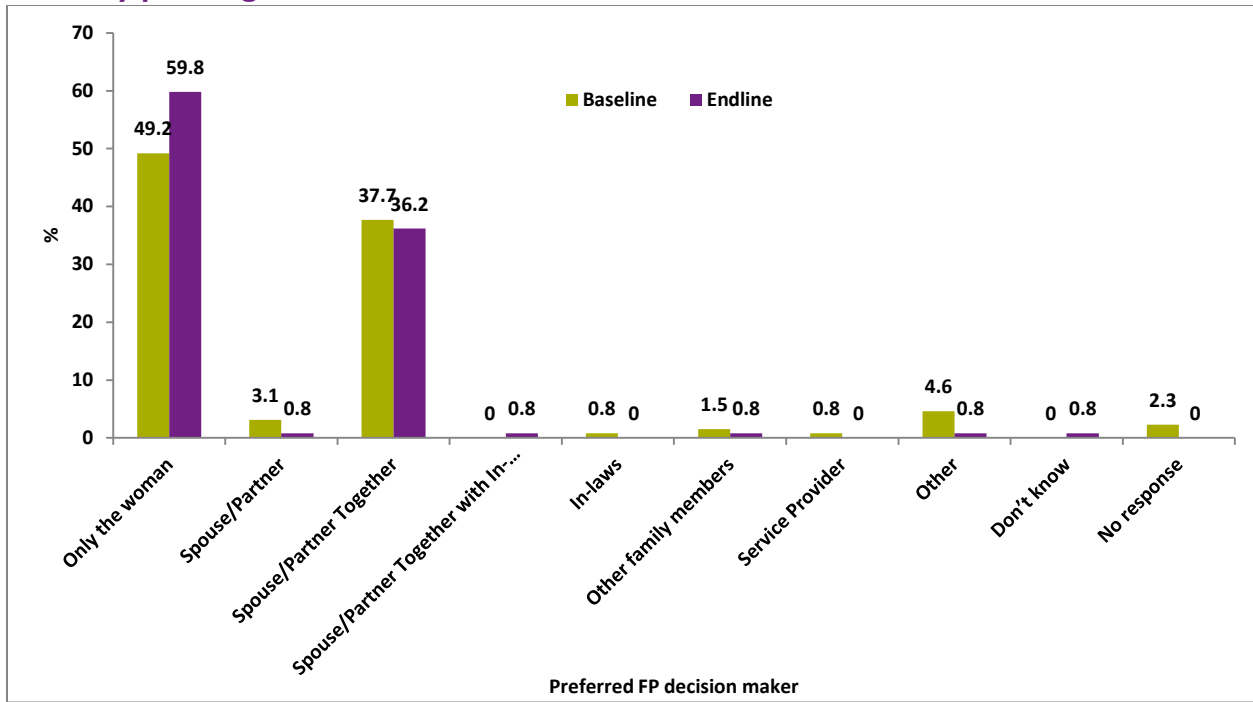


Figure 3.7.8: Percent distribution of females without children by preferred decision maker on family planning at baseline and endline



3.6 Perceived Self-Efficacy

Self-efficacy in this study refers to the youth's belief in their capability and confidence in their ability to seek and use contraceptive methods as well as support others to seek and use contraceptive methods. During the surveys, respondents were asked about their level of confidence to do the following: (i) Visit a facility to get contraception (female) or to get condoms (males); (ii) Use a contraceptive method if you do not desire to get pregnant (female) or support partner to use a contraceptive method to prevent pregnancy (male); (iii) Use a contraceptive method even if your parents/in-laws did not approve (female) or support partner to use a contraceptive method even if parents or in-laws did not approve (male); and (iv) talk to partner about using contraception. The summary of responses is presented in tables 3.8.1 (for male youth) and 3.8.2 (for female youth).

Tables 3.8.1 and 3.8.2 (at the annex) and figures 3.8.1-3.8.4 below show that:

- At both baseline and endline, self-efficacy was high for male youth on all tasks (table 3.8.1) and extremely low for female youth on all measures (table 3.8.2). While there was no task for which less than seven of ten male youth expressed confidence in their ability to perform/accomplish, there was not a single task in which up to one of ten female youth expressed confidence in their ability to perform/accomplish.
- While the SMS interventions could be said to have moderately enhanced the confidence of male youth to perform some tasks, particularly supporting a partner to use method if they did not desire for her to get pregnant, the SMS interventions appear to have no effects on the confidence of female youth to perform any of the listed contraception related tasks.
- Among male youth, a slightly higher percentage of those with children expressed confidence in their ability to support a partner to use a method even if their parents/parents in-laws did not approve of use.

Figure 3.8.1: Perceived self-efficacy among male youth with children, baseline and endline

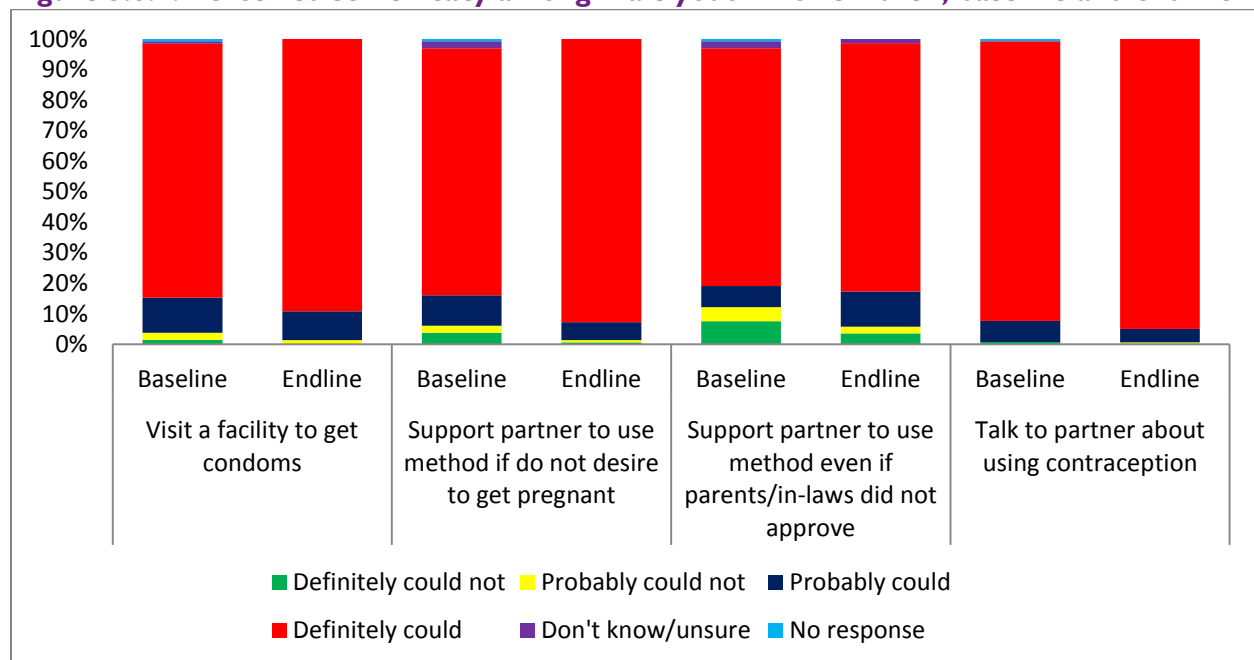


Figure 3.8.2: Perceived self-efficacy among male youth without children children, baseline and endline

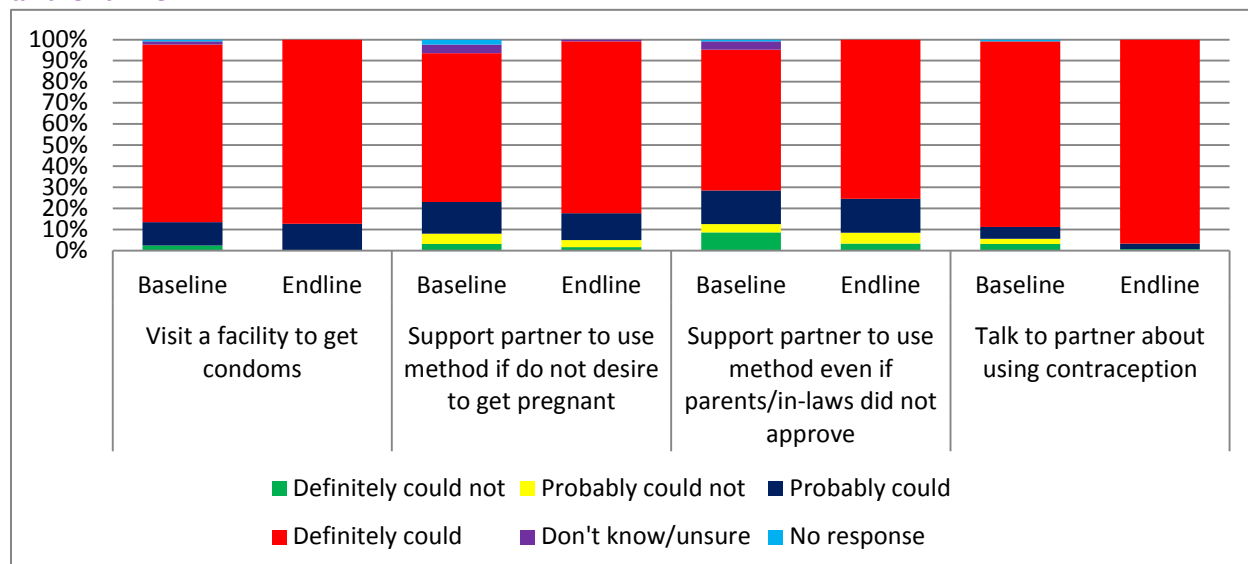


Figure 3.8.3: Perceived self-efficacy among female youth with children, baseline and endline

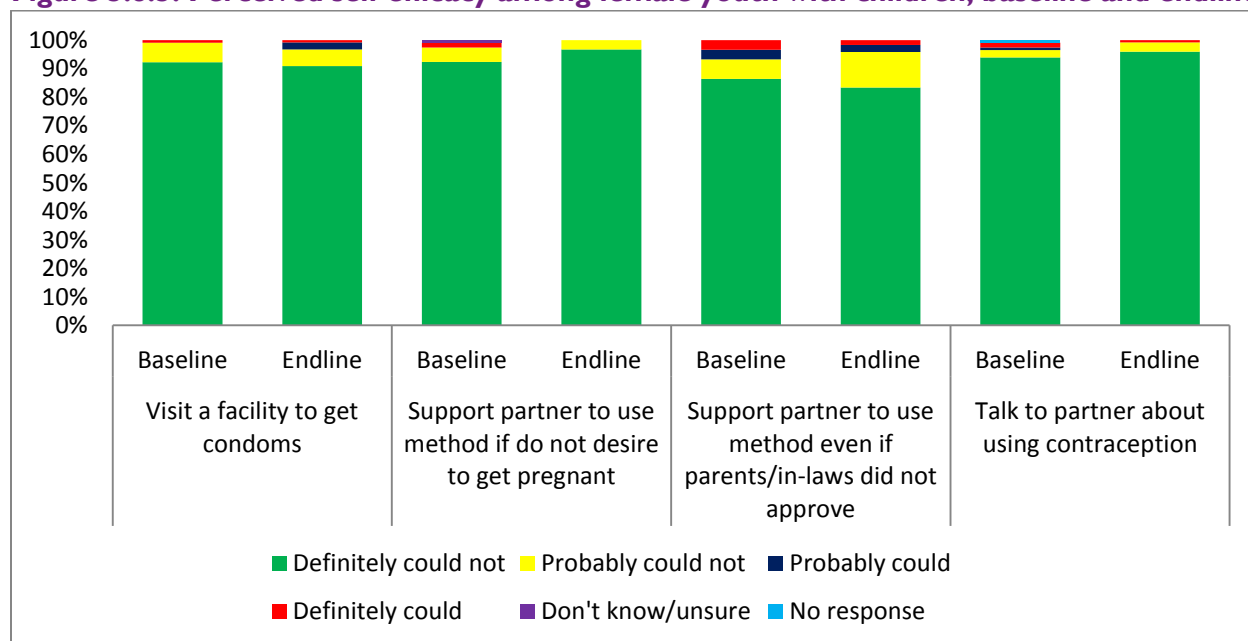
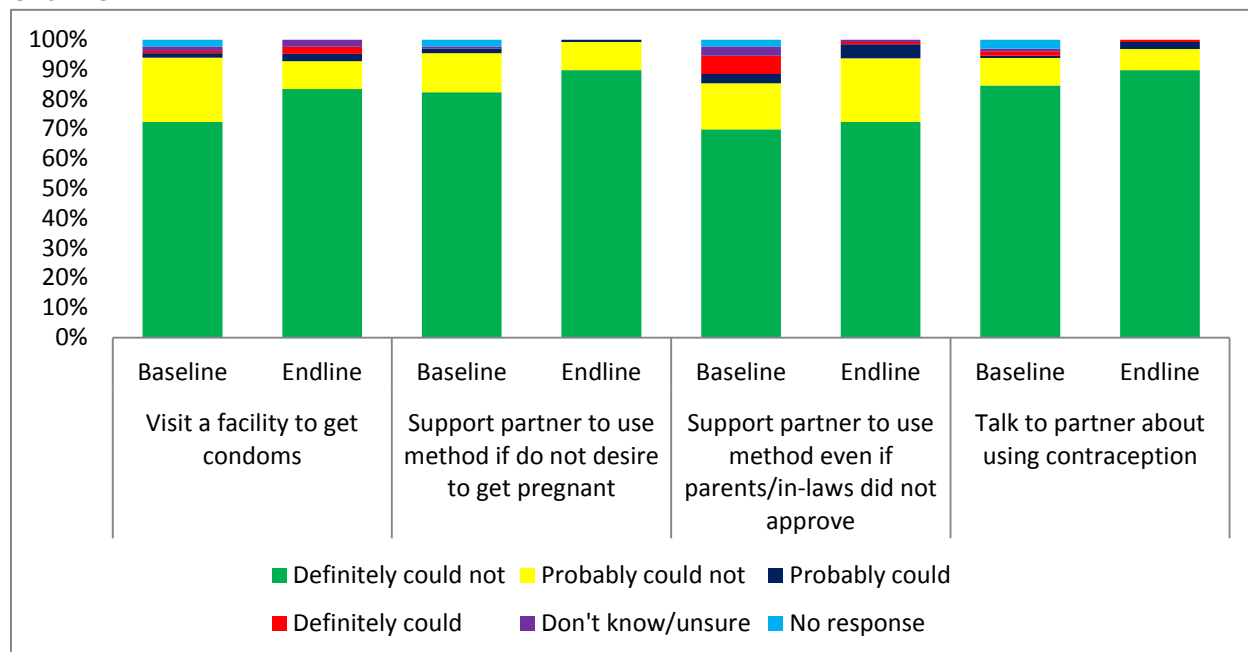


Figure 3.8.3: Perceived self-efficacy among female youth without children, baseline and endline



3.7 Potential Barriers to Contraceptive Use

Several factors—economic, attitudinal, past experience or known experience of others, environmental and cultural—could hinder an individual from accessing FP services. Attempts were made in this study to examine the existence of conditions that could become potential barriers to accessing contraceptive services and how the SMS intervention assisted to ameliorate these conditions. Respondents were asked to agree or disagree with some statements that are indicative of facilitators or barriers to contraceptive use. These statements cover issues related to discomfort around obtaining condom when needed (male youth), or going to a health facility for contraception, affordability of services, attitudes and behavior of service providers, distance to service-delivery points and cost of transportation, and confidence in facility health service providers to provide needed assistance. Agreements or disagreements with these statements reflect how the respondents think, what they believe or what they have experienced that could either facilitate or hinder contraceptive use. While agreements with some statements are indicative of facilitators to contraceptive use, agreements with others are indicative of barriers to contraceptive use. Data on levels of agreement and disagreement with the selected statements are presented in tables 3.9.1 (for male youth) and 3.9.2 (for female youth) in the annex.

Tables 3.9.1 and 3.9.2 show that at both baseline and endline, and for both male and female youth, the overwhelming majority of respondents (in most cases more than 8 of 10 respondents) agreed with statements that are indicative of facilitators and disagreed with statements that are indicative of barriers. That is:

- At endline, about 90% of male youth did not see anything embarrassing about going to the health facility to obtain condoms, and a similar percentage of female youth did not see anything embarrassing about going to the health facility for contraception. Probably because high percentages of youth already expressed comfort about going to the health facility to obtain condom/contraception at baseline, these percentages changed little during the SMS interventions. The percentages of male and female youth who reported to have been treated with disrespect by a health worker in the past are low. At baseline the percentages who felt disrespected by a health worker at any time before the survey are 19.1% among males with children, 8.7% among males without children, 22.2% among females with children, and 11.5% among females without children.

The percentages did not change significantly during the surveys. With over 80% of respondents perceiving the health worker as respectful, health workers' attitudes may not be a major barrier to seeking services from health facilities.

- At baseline and endline, over 90% of male and female youth reported that they trusted the health worker to provide needed help anytime they have questions/concerns about contraception.
- The distance to the nearest health facility does not appear to create a challenge to seeking contraceptive services; over 80% of youth reported that the distance between their home and the health facility did not make it difficult for them to get condoms (male) or contraception (female). This may be due to the fact that the intervention took place in peri-urban settings.
- The cost of transportation to the nearest health facility does not pose a challenge to seeking contraceptive services; over 80% of youth reported that the cost of transportation to the nearest health facility did not make it difficult for them to get condoms (male) or contraception (female). Again, this may be due to the fact that the intervention took place in peri-urban settings.
- Over 80% of the youth reported that transportation is readily available.
- At endline, over 90% of the youth reported to know where to get contraceptive methods to prevent pregnancy.

As stated above, because the percentages of youth that expressed feelings that are indicative of facilitators were very high at baseline, there was little room for wide increases between baseline and endline. Consequently, the exposure to the SMS interventions could only be said to have helped to sustain the high positive feelings expressed at baseline.

3.8 Acceptability of mCenas!

In order to improve future programming on mHealth or interventions like mCenas!, information was collected on the acceptability of mCenas! at endline. Acceptability was measured in several ways, including level of comfort with receiving and sending text messages, the adequacy of the number and content of messages received, the frequency of receiving messages, the appropriateness of the issues covered, perceived benefits of receiving the messages, willingness to pay for messages, and clarity of messages received. Table 3.10 provides a summary of findings on the acceptability of mCenas! in Mozambique and shows that¹⁴:

1. Most respondents felt comfortable sending and receiving SMS messages about SRH and expressed willingness to receive SMS messages on SRH in future. More than half of the respondents also stated that the number of messages was just enough and were long enough. Furthermore, over 90% of all respondents reported that they were comfortable with the days and times of the week that they had received these messages.
2. More than half of all respondents reported to have shared mCenas! messages with partners and friends; however, only about a quarter of male youth and two-fifths of female youth reported to have shared the messages with family members. Over 90% of respondents reported willingness to recommend mCenas! to a friend.

In response to the question on why they would recommend mCenas! to friends, some male youth stated that: *mCenas! is fantastic; youth need more information on sexual and reproductive health; mCenas! could help most of my friends like it helped me learn more about SRH.* Responses from the female respondents include: *many youth look for information about SRH which friends sometimes don't have and mCenas! could provide such information or clarify issues; I like to be educated, and it makes me happy to be able to share this information; and, we should help others.*
3. The majority of respondents reported that the messages received from mCenas! influenced their thinking about whether to begin or continue using a contraceptive method. Female youth stated that: *"Before mCenas I did not use any method of prevention;" "Through the mCenas! I have a certainty that I am doing the right thing by using methods of contraception;" "I had doubts about using contraceptive methods but because of mCenas! I discovered that I could use them because they are safe and effective;"* Male youth also reported that: *"I showed the messages to my partners, and together we were able to decide to use the pill and the condom;" "I was able to change my attitude about certain contraceptive methods;" and "I used the condom before because of diseases, but now I understand that I am also able to avoid pregnancies."* These statements suggest that the messages influenced respondents' thinking about contraceptive use in two ways: for those already using a method at baseline, the SMS messages reinforced their decision to use a method, while for those not using a method at baseline, the messages increased favorable attitudes and intention to start using a method.
4. The majority of respondents reported that the sex and contraception issues addressed in the story messages were clear ('very clear' or 'clear'): About 73% of male youth with children, 77% of male youth without children, 78% of female youth with children, and 73% of female youth without children reported that the issues addressed by these stories were clear. On the clarity of the messages, male respondents had these to say, among others: *"With the SMS I could understand everything about use, the advantages and disadvantages of each method;" "It gave me information in simple language;" "They were clear and objective."* A few of the statements from the female youth include: *"It*

¹⁴ While table 3.10 was developed from responses to close ended questions, we supplemented the close-ended questions with open-ended ones. The translation of the response to the open-ended questions from the Portuguese language to the English language was ongoing at the time of writing the report. More in-depth analysis of the open-ended responses will be undertaken when preparing subsequent program/technical briefs on this study.

helped me understand certain topics that I had never heard discussed;” and, *“Everything that I wanted to know came written and I understood it without difficulties.”*

5. Female youth were more likely to report being aware of the contraceptive methods menu where youth could ask for additional information on contraceptive methods during the mCenas! intervention. While 80% of female youth with children and 70% of female youth without children reported being aware of the contraceptive methods menu, only 53% of male youth with children and 48% of male youth without children reported to know of the menu. The findings also show that among male and female youth, awareness of the contraceptive method menu was slightly higher among those with children.
6. Of those who reported being aware of the contraceptive methods menu, the percentages that reported to have accessed it during the intervention varied slightly among the groups (from 47.9% among male youth with children to 63.5% among female youth with children) and almost all who accessed the menu reported that the information provided through the menu was clear and useful.
7. The ratings of the usefulness of the method menu topics also vary slightly between male and female youth¹⁵. Among male youth, the three most selected topics are implants, male condoms, and the IUD, and among female youth, the three most selected topics are implants, male condoms, and oral contraceptive pills.
8. Female youth were more likely to report being aware of the SRH menu where youth could ask for additional information on SRH topics/issues during the mCenas! intervention. While 75% of female youth with children and 70% of female youth without children reported being aware of the SRH menu, only 50% of male youth with children and 47% of male youth without children reported to know of the menu. The findings also show that among male and female youth, awareness of the SRH menu was slightly higher among those with children.
9. Of those who reported knowledge of the SRH menu, the percentages that reported to have accessed it during the intervention varied slightly among the groups (from 43.9% among male youth with children to 55.3% among female without children) and almost all who accessed the menu reported that the information provided through the menu was clear and useful.
10. The ratings of the usefulness of the SRH menu topics also vary slightly among the groups.¹⁶ Among males with children, the three leading SRH menu topics are *HIV and pregnancy, personal hygiene, and masturbation*. Among males without children, the three leading SRH menu topics are *‘am I ready for sex?’, personal hygiene, and pleasure*. Among female youth with children, the three most cited topics are *‘am I ready for sex?’, personal hygiene, and ‘could I be pregnant?’*. Among females without children, the three most cited SRH menu topics are *personal hygiene, menstruation, and post-abortion*.
11. Of the three approaches used by mCenas! to send messages, the most liked was reception of contraceptive method information in messages sent automatically by the system. This was followed by story messages and finally by accessing menus to request specific method information and additional questions about sexuality. Overall, there was a general acceptability of mCenas! since according to some respondents: *“you could look for information in whatever moment or location;”* *“the stories taught me a lot of things;”* *“the questions that mCenas! sent required a reflection about the attitudes of youth and this is a good thing”* (male youth); *“the stories revealed the day to day life of many woman in*

¹⁵ Because the question reads, “which menu **topic(s)** (plural) did you find most useful?”, many respondents gave more than one method

¹⁶ Because the question reads, “which menu **topic(s)** (plural) did you find most useful?”, many respondents gave more than one method

society;” “every day I received different information that I needed to know”, and “It gave me clarity about everything in a few words.”

12. Over 90% of the youth reported willingness to pay for mCenas! type of messages. On why they would be willing to pay for this type of service, a female respondent stated that: “Because of mCenas I learned a lot because I used to have shame when I talked with others about the subject (contraception).”; A male respondent stated that, “Because I would pay to learn about something that will help me.”
13. On what new things they learned from mCenas!, the respondents stated, among others, that: “I learned that it is important to use methods that are effective and helpful;” “I learned that there are other methods that can prevent unplanned pregnancies besides condoms;” “I have more clarification about different methods” (male respondents); “I learned about the advantages and disadvantages of every method;” “I learned that the more spaced-out the births are, the better their quality of life;” and “I learned that beside the condom, there are other methods such as the pill, Depo, and the IUD” (female respondents).
14. mCenas! program participants faced a few challenges. The main challenge was network failure followed by difficulties in sending messages, which is also associated with network failure. Other challenges include lack of power to charge phones and loss of mobile phones.

4. Conclusions & Results

This report highlights the findings on the effects of mCenas! interventions on knowledge, attitudes, and self-efficacy related to contraception among youth in Mozambique. The study, conducted in the districts of Matola (Maputo province) and Inhambane City (Inhambane province) of Mozambique, was informed by studies that show that disseminating health information through the SMS system is feasible, acceptable, and could be effective in changing knowledge and behavior (over time). A pretest-posttest design that permitted an examination of changes in measures of contraceptive knowledge, attitudes, and self-efficacy between baseline and endline surveys was used to assess the effects of delivering contraception information/messages via SMS on contraceptive knowledge, attitudes, and self-efficacy of youth 18-24. A few major findings are highlighted below.

4.1 Key Findings

Knowledge about contraception: Results show that during the mCenas! interventions, there was an increase in contraceptive knowledge among youth. For instance, there was an increase in the number of methods about which female youth (irrespective of child status) had medium-high knowledge: while 74.4% of females with children and 59.9% of females without children had medium-high knowledge of three or more methods at baseline, 86.6% and 73.9% did respectively at endline. And while 33.5% of males with children and 30.9% of males without children had medium-high knowledge of three or more methods at baseline, 53.4% and 57.7% of them respectively had medium-high knowledge of three or more methods at endline. These increases were reflected by the declines in the percentages of respondents reporting no knowledge of each method between baseline and endline.

Perceptions of contraceptive methods: Perceptions of contraceptive methods were assessed on three qualities: safety, ease of use, and effectiveness of the method.

- (i) **Safety:** Knowledge about the safety of the contraceptive methods was generally low among all categories of respondents, but between baseline and endline, there were significant improvements in the perceptions of the safety of some methods. For instance, among female respondents, whether or not they had children, there were significant increases in the percentages that perceived that condoms, emergency contraception, implants, injectables, and the IUD are safe to use. Among males, the percentages that perceived combined oral pills, injectables, and the IUD to be safe increased significantly between baseline and endline.
- (ii) **Ease of use:** Except for condoms, higher percentages of female youth perceived the contraceptive methods to be easy to use; however, the sex differentials in perceptions are not statistically significant in most cases. Among both male and female youth, the results show significant increases in the percentages that perceived some methods to be easy to use. Among female youth, there were significant increases in the percentages that perceived emergency contraception, implants, injectables, and the IUD to be very easy to use. Among male youth, the percentages that perceived emergency contraception, implants, combined oral pills, injectables, and the IUD to be very easy to use increased during the intervention.
- (iii) **Effectiveness:** Except for condoms, knowledge about the effectiveness of the methods was low at baseline, particularly among the male respondents. However, there were significant inter-survey increases in the percentages of male and female youth that perceived emergency contraception, implants, combined oral pills, and the IUD to be very effective. Female youth were more likely than their male counterparts to perceive the methods as effective.

Use of contraceptive methods: Contraceptive use was examined in three ways: lifetime ever use (except for the condom, which was measured as ever use in the 12 months preceding the survey), current use (at the time of the survey), and intention to use (continue to use) in the 12 months

following the survey. Except for condoms, information provided by male youth relates to their partner's use of contraception.

- (i) **Ever use:** The study shows statistically significant inter-survey increases only for combined oral pills and emergency contraception (only among females with children). This is not unexpected considering the short duration (three months) of the intervention.
- (ii) **Current use:** Data on current use of contraceptive methods show that, among female youth, current use increased significantly only for male condoms and combined oral pills, and these significant increases were observed only among those with children; among male youth, current use of a method increased significantly only for partner's use of combined oral pills. As with ever use, the statistically insignificant increases in current use should not be unexpected in view of the short duration of the intervention.
- (iii) **Intention to use:** Intention to use was examined separately for respondents who reported to be using a method and those who reported to not using a method at the time of the surveys. The interventions contributed to some increases in intention to use a method in the future. The study shows that: (i) Intention to use a contraceptive method during the twelve months following the surveys was high among male and female respondents, whether or not they had children or reported to be using or not using a method at the time of the surveys; (ii) There were significant increases in the intention to use a method during the year following the surveys among males without children who reported to be using a method at the time of the surveys, and, among females without children who reported to not using a method at the time of the surveys; (iii) Among males, the percentage reporting intention to use a method during the 12 months following the endline survey was higher among those who reported to be using a method at the time of the survey, whether or not they had children; among females, the percentages reporting intention to use a method in the twelve months following the endline survey did not differ by whether or not respondents were using a method at the time of the survey. Changes in intention to use specific methods were highlighted in the report.

Contraception attitudes, beliefs, and outcome expectations: Data show that youth in the intervention areas became better informed about contraception and its effects during the mCenas! interventions. For instance, during the intervention, there were significant declines in the percentages of youth who held the view that use of a contraceptive method will make it difficult to have children after stopping use and significant increases in the percentage of youth that agreed it was okay for a young married/unmarried woman to use other contraceptive methods besides condom. Furthermore the percentage of youth who view contraception as a way to increase opportunities for further education increased significantly between the two surveys, though only among youth without children.

Perceived self-efficacy: While the SMS interventions could be said to have moderately enhanced the confidence of male youth to perform some tasks, particularly supporting a partner to use a method if they did not desire for her to get pregnant, the same cannot be said of female youth: the SMS interventions appear to have no effects on their confidence to perform contraception-related tasks. Self-efficacy was extremely low for female youth at baseline and there were no significant increase during the mCenas! interventions. While there was no task for which less than seven of ten male youth expressed confidence in their ability to perform/accomplish, there was not a single task in which up to one of ten female youth expressed confidence in their ability to perform/accomplish.

Acceptability of mCenas!: The overwhelming majority of mCenas! participants were satisfied with the intervention. For instance, most of them felt comfortable sending and receiving SMS messages about SRH and expressed willingness to receive SMS messages on SRH in future. Over 60% of the respondents reported that the number of messages was just enough and were long enough. Despite some challenges faced, including network failure and difficulties in sending messages, most (>90%) clients are still willing

to pay for mCenas! type of messages in future owing to the importance attached to it (see Section 3.8 for more details).

5. Recommendations

Give mobile phone interventions sufficient time. Disseminating contraception messages to youth via SMS has the potential to increase knowledge of contraception, reduce misconceptions, and improve attitudes about contraception among youth. To maximize the benefits of mobile phone interventions, they may need to be implemented over a relatively long period of time to give beneficiaries sufficient time to process and act on the information they receive. It usually takes time to translate knowledge to practice and three months may not be enough.

Consider focus on safety and effectiveness of methods. Knowledge, specifically about the safety and effectiveness of contraceptive methods, was low among the youth in this study. In view of the fact that perceptions of the safety and effectiveness of contraceptive methods might inform the decision to use them, subsequent mHealth interventions may consider developing additional content/messages focused on safety and effectiveness of methods, potentially including comparative effectiveness of methods.

Address self-efficacy among female youth. Self-efficacy about contraception was considerably low among female youth, and, unfortunately, mCenas! did not appear to improve the situation. Subsequent mobile phone interventions should devote significant effort to addressing self-efficacy among female youth by reviewing messages to ensure an emphasis on building confidence to seek and use contraception services, and by complementing mHealth with community activities, such as face-to-face communication with peers and peer educators, which can include role play and coaching. Also, there needs to be better understanding of the reasons for low self-efficacy for contraceptive use among young women, and where gender inequity is implicated, interventions should involve young men.

Design mHealth studies to permit an assessment of the relative contribution of the mobile phone application to improvements in knowledge, attitudes, and self-efficacy related to contraception. mCenas! was an integrated program (use of mobile phone plus other community- and facility-level activities), making it difficult to assess the relative contribution of the mobile phone application to the observed increase in contraceptive knowledge and improvements in attitudes towards contraception. A design that permits a comparison of an integrated program with a standalone program would have permitted a richer assessment of these elements.

Explore how interventions like mCenas! can be implemented and sustained in Mozambique. The overwhelming majority of respondents expressed acceptance of mCenas!, implying that SRH messages delivered through this channel have high probability of reaching youth. As mobile phone ownership increases among youth, mHealth interventions might become an increasingly important channel to address SRH issues among youth in Mozambique.

Use stories delivered via SMS to reach young people with SRH content. Findings from the assessment suggest that longer fictional narratives delivered via SMS are a feasible and acceptable way of reaching young people with SRH content. The use of realistic stories to complement informational messages may have contributed to young people's engagement with the intervention and the positive findings.

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7. Annexes: Tables

Table 3.3.1: Distribution of male youth by number of contraceptive methods known at medium-high levels

Percent reporting to:	Males with children			Males without children			All males		
	Baseline	Endline	Percent point change	Baseline	Endline	Percent point change	Baseline	Endline	Percent point change
Have no medium or high knowledge of any method	21.4	11.5	-9.9*	23.0	10.2	-12.8*	22.2	10.9	-11.3*
Have medium or high knowledge of one method	13.7	12.9	-0.8	15.9	6.8	-9.1	14.8	10.1	-4.7
Have medium or high knowledge of two methods	31.3	22.3	-9.0	30.2	23.7	-6.5	30.7	23.0	-7.7
Have medium or high knowledge of three methods	14.5	24.5	10.0*	19.0	29.7	10.7	16.7	26.8	10.1*
Have medium or high knowledge of four methods	13.7	13.7	0.0	8.7	17.8	9.1	11.3	15.6	4.3
Have medium or high knowledge of five methods	5.3	9.4	4.1	3.2	6.8	3.6	4.3	8.2	3.9
Have medium or high knowledge of six or more methods	0.0	5.8	5.8	0.0	3.4	5.0	0.0	5.5	5.5
Total	131	139	-	126	118	-	257	257	-

Significant at $p \leq 0.05$ (McNemar's test)

Table 3.3.2: Distribution of female youth by number of contraceptive methods known at medium-high levels

Percent reporting to:	Females with children			Females without children			All Females		
	Baseline	Endline	Percent point change	Baseline	Endline	Percent point change	Baseline	Endline	Percent point change
Have no medium or high knowledge of any method	6.0	1.7	-4.3	17.7	10.2	-7.5	12.1	6.1	-6.0
Have medium or high knowledge of one method	5.1	5.0	-0.1	6.2	6.3	0.1	5.7	5.7	0.0
Have medium or high knowledge of two methods	14.5	6.7	-7.8	16.2	9.4	-6.8	15.4	8.1	-7.3
Have medium or high knowledge of three methods	26.5	15.8	-10.7*	23.1	18.1	-5.0	24.7	17.0	-7.7
Have medium or high knowledge of four methods	21.4	30.8	9.4	21.5	25.2	3.7	21.5	27.9	6.4
Have medium or high knowledge of five methods	18.8	20.0	1.2	11.5	15.7	4.2	15.0	17.8	2.8
Have medium or high knowledge of six or more methods	7.7	20.0	12.3*	3.8	14.9	11.1	5.7	17.4	11.8*
Total	117	120	-	130	127	-	247	247	-

Significant at $p \leq 0.05$ (McNemar's test)

Table 3.4.1: Knowledge of contraceptive methods, male youth

Level ¹⁷ of knowledge by FP method	Males with children		Percent point change	Males without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Male and Female Condoms						
None	12.2	2.9	-9.3	18.3	3.4	-14.9*
Low	35.1	30.2	-4.9	29.4	22.9	-6.5
Medium	42.0	49.6	7.6	45.2	50.8	-5.6
High	10.7	17.3	6.6	7.1	22.9	15.8*
Female Condoms						
None	11.5	2.9	-8.6	14.3	3.4	-10.9
Low	35.1	30.2	-4.9	30.2	22.9	-7.3
Medium	42.7	49.6	6.9	48.4	50.8	2.4
High	10.7	17.3	6.6	7.1	22.9	15.8*
Lactational Amenorrhea Method (LAM)						
None	86.3	80.6	-5.7	93.7	81.4	-12.3*
Low	3.8	10.1	6.3	1.6	6.8	5.2
Medium	9.2	5.8	-3.4	4.0	5.9	1.9
High	0.8	3.6	2.8	0.8	5.9	5.1
Emergency Contraception Pill						
None	61.8	41.0	-20.8*	66.7	39.0	-27.7*
Low	21.4	30.2	8.8	17.5	22.0	4.5
Medium	12.2	23.7	11.5*	13.5	33.9	20.4*
High	4.6	5.0	0.4	2.4	5.1	2.7
Combined Oral Contraceptive Pill						
None	23.7	12.2	-11.5*	25.4	6.8	-18.6*
Low	48.1	56.8	8.7	53.2	65.3	12.1*
Medium	25.2	26.6	1.4	16.7	21.2	4.5
High	3.1	4.3	1.2	4.8	6.8	2.0
Implant						
None	61.8	25.2	-36.6*	54.8	25.4	-29.4*
Low	18.3	46.0	27.7*	27.0	48.3	21.3*
Medium	13.7	21.6	7.9	12.7	17.8	5.1
High	6.1	7.2	1.1	5.6	8.5	2.9
Injectables (Depo)						
None	49.6	29.5	-20.1*	57.9	31.4	-26.5*
Low	33.6	52.5	18.9*	30.2	58.5	28.3*
Medium	6.9	13.7	6.8	7.1	7.6	0.5
High	9.9	4.3	-5.6	4.8	2.5	-2.3
Intrauterine Device (IUD)						
None	74.8	46.8	-28.0*	73.0	42.4	-30.6*
Low	21.4	36.0	14.6*	23.0	39.8	16.8*
Medium	3.1	16.5	13.4*	3.2	13.6	10.4*
High	0.8	0.7	-0.1	0.8	4.2	3.4
Number of cases	131	139	-	126	118	-

Significant at $p \leq 0.05$ (McNemar's test)

¹⁷ None=1%; Low=1%-50%; Medium=51%-75%; High=76%-100%.

Table 3.4.2: Knowledge of contraceptive methods, female youth

Level ¹⁸ of knowledge by FP method	Females with children		Percent point change	Females without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Male and Female Condoms						
None	10.3	1.7	-8.6	14.6	7.1	-7.5
Low	14.5	17.5	3.0	16.9	15.7	-1.2
Medium	47.9	49.2	1.3	52.3	48.0	-4.3
High	27.4	31.7	4.3	16.2	29.1	12.9*
Female Condoms						
None	10.3	1.7	-8.6	14.6	7.1	-7.5
Low	14.5	17.5	3.0	16.9	15.7	-1.2
Medium	47.9	49.2	1.3	52.3	48.0	-4.3
High	27.4	31.7	4.3	16.2	29.1	12.9*
Lactational Amenorrhea Method (LAM)						
None	76.1	50.8	-25.3*	89.2	77.2	-12.0*
Low	1.7	2.5	0.8	3.8	2.4	-1.4
Medium	19.7	25.0	5.3	5.4	14.2	8.8
High	2.6	21.7	19.1*	1.5	6.3	4.8
Emergency Contraception Pill						
None	80.3	40.0	-40.3*	63.1	33.1	-30.0*
Low	5.1	20.8	15.7*	18.5	18.9	0.4
Medium	11.1	30.8	19.7*	13.1	41.7	28.6*
High	3.4	8.3	4.9	5.4	6.3	0.9
Combined Oral Contraceptive Pill						
None	6.0	0.0	-6.0	21.5	11.0	-10.5*
Low	42.7	40.0	-2.7	39.2	41.7	2.5
Medium	40.2	44.2	4.0	28.5	38.6	10.1*
High	11.1	15.8	4.7	10.8	8.7	-2.1
Implant						
None	20.5	6.7	-13.8*	30.8	10.2	-20.6*
Low	34.2	47.5	13.3*	31.5	58.3	26.8*
Medium	27.4	34.2	6.8	23.1	21.3	-1.8
High	17.9	11.7	-6.2	14.6	10.2	-4.4
Injectables (Depo)						
None	13.7	5.0	-8.7	42.3	12.6	-29.7*
Low	57.3	72.5	15.2*	39.2	69.3	30.1*
Medium	23.1	13.3	-9.8	13.8	17.3	3.5
High	6.0	9.2	3.2	4.6	0.8	-3.8
Intrauterine Device (IUD)						
None	29.1	10.8	-18.3*	43.1	20.5	-22.6*
Low	42.7	46.7	4.0	40.0	45.7	5.7
Medium	21.4	29.2	7.8	10.8	29.1	18.3*
High	6.8	13.3	6.5	6.2	4.7	-1.5
Number of cases	117	120	-	130	127	-

Significant at $p \leq 0.05$ (McNemar's test)

¹⁸ As in footnote 1.

Table 3.5.1: Perceptions of contraceptive methods, male youth

FP method	Males with children		Percent point change	Males without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Male Condom						
Reduces pleasure	51.1	43.2	-7.9	42.1	36.4	-5.7
Safe						
<i>Not at all</i>	0.0	0.0	0.0	0.8	2.5	1.7
<i>Fairly</i>	46.6	51.8	5.2	41.3	56.8	15.5*
<i>Very</i>	51.9	46.0	-5.9	44.4	36.4	-8.0
<i>Don't know</i>	1.5	1.4	-0.1	7.1	1.7	-5.4
<i>n/a</i>	0.0	0.7	0.7	6.3	2.5	-3.8
Easy to use						
<i>Not at all</i>	3.1	1.4	-1.7	3.2	2.5	-0.7
<i>Fairly</i>	37.4	43.9	6.5	35.7	42.4	6.7
<i>Very</i>	58.0	51.8	-6.2	51.6	51.7	0.1
<i>Don't know</i>	1.5	2.2	0.7	3.2	0.8	-2.4
<i>n/a</i>	0.0	0.7	0.7	6.3	2.5	-3.8
Effective						
<i>Not at all</i>	2.3	2.2	-0.1	2.4	2.5	0.1
<i>Fairly</i>	47.3	49.6	2.3	47.6	58.5	10.9*
<i>Very</i>	47.3	45.3	-2.0	37.3	35.6	-1.7
<i>Don't know</i>	3.1	2.2	-0.9	6.3	0.8	-5.5
<i>n/a</i>	0.0	0.7	0.7	6.3	2.5	-3.8
Female condom						
Use can increase pleasure	10.7	9.4	-1.3	6.3	11.0	4.7
Safe						
<i>Not at all</i>	1.5	2.9	1.4	4.8	1.7	-3.1
<i>Fairly</i>	16.0	37.4	21.4*	19.0	35.6	16.6*
<i>Very</i>	16.0	25.2	9.2	16.7	24.6	7.9
<i>Don't know</i>	54.2	31.7	-22.5*	46.8	34.7	-12.1*
<i>n/a</i>	12.2	2.9	-9.3	12.7	3.4	-9.3
Easy to use						
<i>Not at all</i>	7.6	12.9	5.3	6.3	11.9	5.6
<i>Fairly</i>	17.6	35.3	17.7*	17.5	36.4	18.9*
<i>Very</i>	7.6	9.4	1.8	8.7	16.1	7.4
<i>Don't know</i>	55.0	39.6	-15.4*	54.8	32.2	-22.6*
<i>n/a</i>	12.2	2.9	-9.3	12.7	3.4	-9.3
Effective						
<i>Not at all</i>	1.5	2.2	0.7	4.0	2.5	-1.5
<i>Fairly</i>	23.7	33.8	10.1*	16.7	43.2	26.5*
<i>Very</i>	9.9	20.1	10.2*	18.3	20.3	2.0
<i>Don't know</i>	52.7	41.0	-11.7*	48.4	30.5	-17.9*
<i>n/a</i>	12.2	2.9	-9.3	12.7	3.4	-9.3
Lactational Amenorrhea Method (LAM)						
Safe						
<i>Not at all</i>	0.8	0.0	-0.8	0.8	0.0	-0.8
<i>Fairly</i>	2.3	6.5	4.2	0.8	8.5	7.7
<i>Very</i>	5.3	5.0	-0.3	0.8	3.4	2.6
<i>Don't know</i>	5.3	7.9	2.6	4.0	6.8	2.8

<i>n/a</i>	86.3	80.6	-5.7	93.7	81.4	-12.3*
Easy to use						
<i>Not at all</i>	0.0	0.7	0.7	1.6	0.0	-1.6
<i>Fairly</i>	3.8	6.5	2.7	0.8	9.3	8.5
<i>Very</i>	4.6	2.9	-1.7	0.0	1.7	1.7
<i>Don't know</i>	5.3	9.4	4.1	4.0	7.6	3.6
<i>n/a</i>	86.3	80.6	-5.7	93.7	81.4	-12.3*
Effective						
<i>Not at all</i>	0.0	0.0	0.0	0.8	0.0	-0.8
<i>Fairly</i>	3.1	5.0	1.9	1.6	9.3	7.7
<i>Very</i>	5.3	5.8	0.5	0.0	2.5	2.5
<i>Don't know</i>	5.3	8.6	3.3	4.0	6.8	2.8
<i>n/a</i>	86.3	80.6	-5.7	93.7	81.4	-12.3*
Emergency Contraception Pill						
Safe						
<i>Not at all</i>	5.3	2.9	-2.4	2.4	2.5	0.1
<i>Fairly</i>	13.0	29.5	16.5*	11.1	33.9	22.8*
<i>Very</i>	8.4	14.4	6.0	9.5	16.1	6.6
<i>Don't know</i>	13.0	12.2	-0.8	11.1	9.3	-1.8
<i>n/a</i>	60.3	41.0	-19.3*	65.9	38.1	-27.8*
Easy to use						
<i>Not at all</i>	3.1	1.4	-1.7	2.4	1.7	-0.7
<i>Fairly</i>	13.7	20.9	7.2	8.7	28.0	19.3*
<i>Very</i>	9.2	23.0	13.8*	11.1	22.9	11.8*
<i>Don't know</i>	13.7	13.7	0.0	11.9	9.3	-2.6
<i>n/a</i>	60.3	41.0	-19.3*	65.9	38.1	-27.8*
Effective						
<i>Not at all</i>	3.8	1.4	-2.4	1.6	0.0	-1.6
<i>Fairly</i>	12.2	29.5	17.3*	11.1	33.9	22.8*
<i>Very</i>	9.2	10.8	1.6	7.9	19.5	11.6
<i>Don't know</i>	14.5	17.3	2.8	13.5	8.5	-5.0
<i>n/a</i>	60.3	41.0	-19.3*	65.9	38.1	-27.8*
Combined Oral Contraceptive Pill						
Safe						
<i>Not at all</i>	7.6	5.0	-2.6	7.9	5.1	-2.8
<i>Fairly</i>	29.0	43.9	14.9*	31.0	49.2	18.2*
<i>Very</i>	24.4	27.3	2.9	11.9	26.3	14.4*
<i>Don't know</i>	16.0	12.2	-3.8	24.6	12.7	-11.9*
<i>n/a</i>	22.9	11.5	-11.4*	24.6	6.8	17.8*
Easy to use						
<i>Not at all</i>	2.3	2.2	-0.1	3.2	5.1	1.9
<i>Fairly</i>	27.5	39.6	12.1*	24.6	38.1	13.5*
<i>Very</i>	28.2	34.5	6.3	20.6	36.4	15.8*
<i>Don't know</i>	19.1	12.2	-6.9	27.0	13.6	-13.4*
<i>n/a</i>	22.9	11.5	-11.4*	24.6	6.8	-17.8*
Effective						
<i>Not at all</i>	7.6	2.2	-5.4	9.5	2.5	-7.0
<i>Fairly</i>	26.7	45.3	18.6*	27.0	50.8	23.8*
<i>Very</i>	22.9	25.2	2.3	11.9	22.9	11.0*
<i>Don't know</i>	19.8	15.8	-4.0	27.0	16.9	-10.1*
<i>n/a</i>	22.9	11.5	-11.4*	24.6	6.8	-17.8*

Implants						
Safe						
<i>Not at all</i>	2.3	1.4	-0.9	7.1	0.8	-6.3
<i>Fairly</i>	15.3	23.7	8.4	13.5	28.8	15.3*
<i>Very</i>	13.7	37.4	23.7*	13.5	33.1	19.6*
<i>Don't know</i>	6.9	12.2	5.3	11.9	12.7	0.8
<i>n/a</i>	61.8	25.2	-36.6*	54.0	24.6	-29.4*
Easy to use						
<i>Not at all</i>	7.6	5.8	-1.8	4.8	2.5	-2.3
<i>Fairly</i>	11.5	31.7	20.2*	10.3	34.7	24.4*
<i>Very</i>	9.2	23.7	14.5*	8.7	19.5	10.8*
<i>Don't know</i>	9.9	13.7	3.8	22.2	18.6	-3.6
<i>n/a</i>	61.8	25.2	-36.6*	54.0	24.6	-29.4*
Effective						
<i>Not at all</i>	0.8	0.7	-0.1	3.2	2.5	-0.7
<i>Fairly</i>	16.0	28.1	12.1*	13.5	29.7	16.2*
<i>Very</i>	9.2	33.8	24.6*	11.1	24.6	13.5*
<i>Don't know</i>	12.2	12.2	0.0	18.3	18.6	0.3
<i>n/a</i>	61.8	25.2	-36.6*	54.0	24.6	-29.4*
Injectables (Depo)						
Safe						
<i>Not at all</i>	3.8	3.6	-0.2	4.0	8.5	4.5
<i>Fairly</i>	16.8	27.3	10.5*	10.3	28.8	18.5*
<i>Very</i>	19.1	28.8	9.7	11.1	17.8	6.7
<i>Don't know</i>	12.2	10.8	-1.4	19.8	13.6	-6.2
<i>n/a</i>	48.1	29.5	-18.6*	54.8	31.4	-23.4*
Easy to use						
<i>Not at all</i>	7.6	7.9	0.3	3.2	7.6	4.4
<i>Fairly</i>	19.1	30.9	11.8*	13.5	28.8	15.3*
<i>Very</i>	9.2	20.1	10.9*	7.9	16.1	8.2
<i>Don't know</i>	16.0	11.5	-4.5	20.6	16.1	-4.5
<i>n/a</i>	48.1	29.5	-18.6*	54.8	31.4	-23.4*
Effective						
<i>Not at all</i>	7.6	1.4	-6.2	3.2	5.9	2.7
<i>Fairly</i>	14.5	33.8	19.3*	9.5	32.2	22.7*
<i>Very</i>	15.3	21.6	6.3	11.1	14.4	3.3
<i>Don't know</i>	14.5	13.7	-0.8	21.4	16.1	-5.3
<i>n/a</i>	48.1	29.5	-18.6*	54.8	31.4	-23.4*
Intrauterine Device (IUD)						
Safe						
<i>Not at all</i>	1.5	0.0	-1.5	2.4	0.8	-1.6
<i>Fairly</i>	5.3	20.9	15.6*	9.5	21.2	11.7*
<i>Very</i>	6.9	23.0	16.1*	3.2	22.9	19.7*
<i>Don't know</i>	13.7	10.1	-3.6	11.9	13.6	1.7
<i>n/a</i>	72.5	46.0	-26.5*	73.0	41.5	-31.5*
Easy to use						
<i>Not at all</i>	3.1	2.2	-0.9	5.6	2.5	-3.1
<i>Fairly</i>	5.3	22.3	17.0*	7.9	23.7	15.8*
<i>Very</i>	4.6	16.5	11.9*	0.8	9.3	8.5
<i>Don't know</i>	14.5	12.9	-1.6	12.7	22.8	10.1
<i>n/a</i>	72.5	46.0	-26.5*	73.0	41.5	-31.5*

Effective						
<i>Not at all</i>	0.8	0.7	-0.1	4.8	0.8	-4.0
<i>Fairly</i>	6.1	25.2	19.1*	4.8	25.4	20.6*
<i>Very</i>	5.3	15.8	10.5*	4.8	13.6	8.8
<i>Don't know</i>	15.3	12.2	-3.1	12.7	18.6	5.9
<i>n/a</i>	72.5	46.0	-26.5*	73.0	41.5	-31.5*
Number of cases	131	139	-	126	118	-

* Significant at $p \leq 0.05$ (McNemar's test)

Table 3.5.2: Perceptions of contraceptive methods, female youth

FP method	Females with children		Percent point change	Females without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Male Condom						
Reduces pleasure	21.4	25.0	3.6	17.7	13.4	-4.3
Safe						
<i>Not at all</i>	7.7	1.7	-6.0	4.6	0.0	-4.6
<i>Fairly</i>	32.5	44.2	11.7*	30.8	46.5	15.7*
<i>Very</i>	50.4	50.0	-0.4	44.6	44.1	-0.5
<i>Don't know</i>	9.4	4.2	-5.2	10.0	3.1	-6.9
<i>n/a</i>	0.0	0.0	0.0	10.0	6.3	-3.7
Easy to use						
<i>Not at all</i>	10.3	4.2	-6.1	5.4	4.7	-0.7
<i>Fairly</i>	29.1	33.3	4.2	29.2	27.6	-1.6
<i>Very</i>	51.3	57.5	6.2	48.5	56.7	8.2
<i>Don't know</i>	9.4	5.0	-4.4	6.9	4.7	-2.2
<i>n/a</i>	0.0	0.0	0.0	10.0	6.3	-3.7
Effective						
<i>Not at all</i>	7.7	4.2	-3.5	4.6	3.1	-1.5
<i>Fairly</i>	37.6	45.8	8.2	42.3	44.1	1.8
<i>Very</i>	43.6	46.7	3.1	39.2	44.1	4.9
<i>Don't know</i>	11.1	3.3	-7.8	3.8	2.4	-1.4
<i>n/a</i>	0.0	0.0	0.0	10.0	6.3	-3.7
Female condom						
Use can increase pleasure	17.1	25.0	7.9	13.8	23.6	9.8
Safe						
<i>Not at all</i>	10.3	4.2	-6.1	5.4	1.6	-3.8
<i>Fairly</i>	13.7	38.3	24.6*	14.6	35.4	20.8*
<i>Very</i>	17.1	35.0	17.9*	27.7	33.1	5.4
<i>Don't know</i>	51.3	20.8	-30.5*	37.7	22.8	-14.9*
<i>n/a</i>	7.7	1.7	-6.0	14.6	7.1	-7.5
Easy to use						
<i>Not at all</i>	24.8	30.8	6.0	28.5	25.2	-3.3
<i>Fairly</i>	18.8	27.5	8.7	20.8	31.5	10.7
<i>Very</i>	13.7	18.3	4.6	8.5	17.3	8.8
<i>Don't know</i>	35.0	21.7	-13.3*	27.7	18.9	-8.8
<i>n/a</i>	7.7	1.7	-6.0	14.6	7.1	-7.5
Effective						
<i>Not at all</i>	8.5	3.3	-5.2	5.4	6.3	0.9
<i>Fairly</i>	20.5	36.7	16.2*	23.1	34.6	11.5*
<i>Very</i>	23.1	32.5	9.4	26.2	28.3	2.1
<i>Don't know</i>	39.3	25.8	-13.5*	30.8	23.6	-7.2
<i>n/a</i>	8.5	1.7	-6.8	14.6	7.1	-7.5
Lactational Amenorrhea Method (LAM)						
Safe						
<i>Not at all</i>	4.3	11.7	7.4	0.8	2.4	1.6
<i>Fairly</i>	11.1	15.8	4.7	4.6	10.2	5.6
<i>Very</i>	7.7	13.3	5.6	3.8	5.5	1.7
<i>Don't know</i>	1.7	8.3	6.6	1.5	4.7	3.2
<i>n/a</i>	75.2	50.8	-24.4*	89.2	77.2	-12.0*

Easy to use						
<i>Not at all</i>	4.3	13.3	9.0	0.8	6.3	5.5
<i>Fairly</i>	12.0	15.8	3.8	3.8	6.3	2.5
<i>Very</i>	6.8	10.8	4.0	3.8	2.4	-1.4
<i>Don't know</i>	1.7	9.2	7.5	2.3	7.9	5.6
<i>n/a</i>	75.2	50.8	-24.4*	89.2	77.2	-12.0*
Effective						
<i>Not at all</i>	0.9	8.3	7.4	0.8	0.8	0.0
<i>Fairly</i>	14.5	20.8	6.3	6.2	11.0	4.8
<i>Very</i>	6.0	11.7	5.7	0.8	5.5	4.7
<i>Don't know</i>	3.4	8.3	4.9	3.1	5.5	2.4
<i>n/a</i>	75.2	50.8	-24.4*	89.2	77.2	-12.0*
Emergency Contraception Pill						
Safe						
<i>Not at all</i>	5.1	2.5	-2.6	7.7	8.7	1.0
<i>Fairly</i>	3.4	26.7	23.3*	10.8	33.1	22.3*
<i>Very</i>	6.8	24.2	17.4*	8.5	20.5	12.0*
<i>Don't know</i>	5.1	6.7	1.6	10.0	4.7	-5.3
<i>n/a</i>	79.5	40.0	-39.5*	63.1	33.1	-30.0*
Easy to use						
<i>Not at all</i>	3.4	8.3	4.9	8.5	12.6	4.1
<i>Fairly</i>	6.8	17.5	10.7*	10.0	20.5	10.5
<i>Very</i>	6.8	27.5	20.7*	10.0	30.7	20.7*
<i>Don't know</i>	3.4	6.7	3.3	8.5	3.1	-5.4
<i>n/a</i>	79.5	40.0	-39.5*	63.1	33.1	-30.0*
Effective						
<i>Not at all</i>	3.4	5.8	2.4	5.4	9.4	4.0
<i>Fairly</i>	3.4	24.2	20.8*	12.3	22.0	9.7
<i>Very</i>	6.8	20.8	14.0*	10.8	24.4	13.6*
<i>Don't know</i>	6.8	9.2	2.4	8.5	11.0	2.5
<i>n/a</i>	79.5	40.0	-39.5*	63.1	33.1	-30.0*
Combined Oral Contraceptive Pill						
Safe						
<i>Not at all</i>	17.1	10.0	-7.1	22.3	10.2	-12.1*
<i>Fairly</i>	34.2	49.2	15.0*	26.9	47.2	20.3*
<i>Very</i>	35.0	37.5	2.5	20.8	27.8	7.0
<i>Don't know</i>	10.3	3.3	-7.0	8.5	3.9	-4.6
<i>n/a</i>	3.4	0.0	-3.4	21.5	11.0	-10.5*
Easy to use						
<i>Not at all</i>	21.4	15.0	-6.4	23.1	17.3	-5.8
<i>Fairly</i>	28.2	37.5	9.3	25.4	37.0	11.6*
<i>Very</i>	39.3	45.8	6.5	21.5	33.1	11.6*
<i>Don't know</i>	7.7	1.7	-6.0	8.5	1.6	-6.9
<i>n/a</i>	3.4	0.0	-3.4	21.5	11.0	-10.5*
Effective						
<i>Not at all</i>	13.7	10.8	-2.9	12.3	9.4	-2.9
<i>Fairly</i>	35.0	38.3	3.3	26.2	40.2	14.0*
<i>Very</i>	38.5	45.8	7.3	26.9	33.9	7.0
<i>Don't know</i>	9.4	5.0	-4.4	13.1	5.5	-7.6
<i>n/a</i>	3.4	0.0	-3.4	21.5	11.0	-10.5*
Implants						

Safe						
<i>Not at all</i>	6.0	4.2	-1.8	8.5	5.5	-3.0
<i>Fairly</i>	17.9	30.8	12.9*	18.5	31.5	13.0*
<i>Very</i>	41.0	51.7	10.7*	32.3	48.0	15.7*
<i>Don't know</i>	14.5	6.7	-7.8	10.0	4.7	-5.3
<i>n/a</i>	20.5	6.7	-13.8*	30.8	10.2	-20.6*
Easy to use						
<i>Not at all</i>	11.1	12.5	1.4	18.5	14.2	-4.3
<i>Fairly</i>	17.1	30.8	13.7*	19.2	28.3	9.1
<i>Very</i>	26.5	41.7	15.2*	14.6	33.1	18.5*
<i>Don't know</i>	24.8	8.3	-16.5*	16.9	14.2	-2.7
<i>n/a</i>	20.5	6.7	-13.8*	30.8	10.2	-20.6*
Effective						
<i>Not at all</i>	4.3	7.5	3.2	5.4	4.7	-0.7
<i>Fairly</i>	21.4	35.0	13.6*	23.8	29.9	6.1
<i>Very</i>	33.3	45.0	11.7*	27.7	46.5	18.8*
<i>Don't know</i>	20.5	5.8	-14.7*	12.3	8.7	-3.6
<i>n/a</i>	20.5	6.7	-13.8*	30.8	10.2	-20.6*
Injectables (Depo)						
Safe						
<i>Not at all</i>	10.3	3.3	-7.0	12.3	6.3	-6.0
<i>Fairly</i>	27.4	35.8	8.4	21.5	39.4	17.9*
<i>Very</i>	37.6	48.3	10.7*	13.8	34.6	20.8*
<i>Don't know</i>	12.8	7.5	-5.3	15.4	7.1	-8.3
<i>n/a</i>	12.0	5.0	-7.0	35.9	12.6	-23.3*
Easy to use						
<i>Not at all</i>	13.7	10.0	-3.7	14.6	14.2	-0.4
<i>Fairly</i>	25.6	38.3	12.7*	20.8	34.6	13.8*
<i>Very</i>	40.2	45.0	4.8	16.9	34.6	17.7*
<i>Don't know</i>	8.5	1.7	-6.8	10.8	3.9	-6.9
<i>n/a</i>	12.0	5.0	-7.0	36.9	12.6	-23.3*
Effective						
<i>Not at all</i>	5.1	3.3	-1.8	6.2	3.1	-3.1
<i>Fairly</i>	29.9	48.3	18.4*	29.2	33.1	3.9
<i>Very</i>	40.2	41.7	1.5	16.9	43.3	26.4*
<i>Don't know</i>	12.8	1.7	-11.1*	10.8	7.9	-2.1
<i>n/a</i>	12.0	5.0	-7.0	36.9	12.6	-23.3*
Intrauterine Device (IUD)						
Safe						
<i>Not at all</i>	17.1	11.7	-5.4	10.0	7.9	-2.1
<i>Fairly</i>	16.2	36.7	20.5*	16.2	37.0	20.8*
<i>Very</i>	19.7	30.0	10.3*	16.2	25.2	9.0
<i>Don't know</i>	21.4	10.8	-10.6*	15.4	9.4	-6.0
<i>n/a</i>	25.6	10.8	-14.8*	42.3	20.5	-21.8*
Easy to use						
<i>Not at all</i>	21.4	27.5	6.1	18.5	21.3	2.8
<i>Fairly</i>	12.0	30.0	18.0*	12.3	24.4	12.1*
<i>Very</i>	15.4	18.3	2.9	10.0	18.9	8.9
<i>Don't know</i>	23.9	13.3	-10.6*	16.9	15.0	-1.9
<i>n/a</i>	27.4	10.8	-14.8*	42.3	20.5	-21.8*
Effective						

<i>Not at all</i>	10.3	16.7	6.4	3.8	8.7	4.9
<i>Fairly</i>	19.7	35.0	15.3*	18.5	28.3	9.8
<i>Very</i>	23.1	25.0	1.9	20.0	33.9	13.9*
<i>Don't know</i>	19.7	12.5	-7.2	15.4	8.7	-6.7
<i>n/a</i>	27.4	10.8	-16.6*	42.3	20.5	-21.8*
Number of cases	117	120	-	130	127	-

* Significant at $p \leq 0.05$ (McNemar's test)

Table 3.6.1: Contraceptive method use and intention to use among males

Use of FP by method	Males with children		Percent point change	Males without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Male Condoms						
Use in last 12 months	92.4	94.2	1.8	84.1	92.4	8.3
Current use	73.3	79.9	6.6	74.6	82.2	7.6
Female Condoms						
Partner ever used	9.2	12.9	3.7	9.5	12.7	3.2
Partner currently using	3.1	2.2	-0.9	2.4	1.7	-0.7
Lactational Amenorrhea Method (LAM)						
Partner ever used	6.1	5.0 ¹⁹	-1.1	-	-	-
Partner currently using	0.8	0.0	-0.8	-	-	-
Emergency Contraception Pill						
Ever use	17.6	21.6	4.0	8.7	16.9	8.2
Current use	-	-	-	-	-	-
Combined Oral Contraceptive Pill						
Partner ever used	44.3	52.5	8.2	24.6	33.1	8.5
Partner currently using	7.6	28.1	20.5*	2.4	15.3	12.9*
Implant						
Partner ever used	3.8	11.5	7.7	2.4	11.0	8.6
Partner currently using	0.8	2.2	1.4	0.0	3.4	1.7
Injectables (Depo)						
Partner ever used	10.7	11.5	0.8	4.0	4.2	0.2
Partner currently using	1.5	6.5	5	0.0	3.4	3.4
Intrauterine Device (IUD)						
Partner ever used	1.5	5.8	4.3	1.6	2.5	0.9
Partner currently using	0.0	0.8	0.8	0.0	0.7	0.7
Number of cases	131	139	-	126	118	-

Significant at $p \leq 0.05$ (McNemar's test)

¹⁹ Decline may be due to better understanding of what LAM is at endline

Table 3.6.2: Contraceptive method use and intention to use among females

Use of FP by method	Females with children		Percent point change	Females without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Male Condoms						
Partner ever used	80.3	86.7	6.4	92.3	89.0 ²⁰	-3.3
Partner currently using	49.6	62.5	12.9*	65.4	71.7	6.3
Female Condoms						
Ever use	8.5	16.7	8.2	10.0	17.3	7.3
Current use	1.7	2.5	0.8	2.3	5.5	3.2
Lactational Amenorrhea Method (LAM)						
Ever use	7.7	17.5	9.8	-	-	-
Current use	0.0	0.8	-0.8	-	-	-
Emergency Contraception Pill						
Ever use	1.7	14.2	12.5*	6.2	14.2	8.0
Current use	-	-	-	-	-	-
Combined Oral Contraceptive Pill						
Ever use	61.5	71.7	10.2*	33.1	42.5	9.4
Current use	13.7	26.7	13.0*	3.8	13.4	9.6
Implant						
Ever use	11.1	15.8	4.7	5.4	5.5	0.1
Current use	5.1	11.7	6.6	3.1	3.9	0.8
Injectables (Depo)						
Ever use	28.2	25.8 ²¹	-2.4	3.1	7.1	4.0
Current use	10.3	13.3	3.0	0.0	3.1	3.1
Intrauterine Device (IUD)						
Ever use	1.7	2.5	0.8	1.5	3.1	1.6
Current use	0.9	1.7	0.8	0.8	3.1	2.3
Number of cases	117	120	-	130	127	-

* Significant at $p \leq 0.05$ (McNemar's test)

²⁰ Decline in ever use of condom could be a reporting error

²¹ See footnote in the report for probable cause of the decline in ever use of injectables

Table 3.6.3: Intention to Use a Contraceptive Method among male youth currently using and not using a method

	Males with children		Percent point change	Males without children		Percent point change
	Baseline	Endline		Baseline	Endline	
1. Percentage currently using a method (or reported partner's use of a method)	89.3 (131)	89.9 (139)	-0.6	81.7 (126)	89.0 (118)	7.3
1A. Of those currently using a method (or reported a partner's use of a method), percentage that reported intention to (continue) use (or support a partner to use) a method during the next 12 months	90.6 (117)	97.6 (125)	7.0	85.4 (103)	99.0 (105)	13.6*
1B. Of those intending to use a method (or reported supporting a partner to use) a method , percentage that stated:						
Male condom	66.0	50.4	-15.6*	62.5	61.0	-1.5
Female condom	5.6	4.0	-1.6	9.1	8.6	-0.5
Combined oral contraception pill	34.0	35.2	1.2	26.1	33.3	7.2
Implant	14.2	26.4	12.2*	15.9	21.0	5.1
Injectables	11.3	15.2	3.9	2.3	9.5	7.2
Intrauterine Device	7.5	9.6	2.1	0	10.5	10.5
Number of cases	106	122		88	104	
2. Percentage currently not using a method (or reported partner's use of a method)	10.7 (131)	10.1 (139)	-0.6	18.3 (126)	11.0 (118)	-7.3
2A. Of those currently not using a method (or reported a partner's use of a method), percentage that reported intention to (continue) use (or support a partner to use) a method during the next 12 months	78.6 (14)	78.6 (14)	0	78.3 (23)	84.6 (13)	6.3
2B. Of those intending to use a method (or reported supporting a partner to use) a method , percentage that stated:						
Male condom	45.4	42.9	-2.5	44.4	81.8	37.4*
Female condom	9.1	7.1	-2.0	33.4	9.1	-24.3
Combined oral contraception pill	54.5	21.4	-33.1	16.7	18.2	1.5
Implant	0	21.4	21.4*	0	9.1	9.1
Injectables	9.1	14.3	5.2	0	0	0
Intrauterine Device	0	0	0	11.1	18.2	7.1
Number of cases	11	11		18	11	

Significant at $p < 0.05$ (McNemar's test)

Table 3.6.4: Intention to Use a Contraceptive Method among female youth currently using and not using a method

	females with children		Percent point change	females without children		Percent point change
	Baseline	Endline		Baseline	Endline	
1. Percentage currently using a method (or reported partner's use of a method)	81.2 (117)	87.5 (120)	6.3	75.4 (130)	79.5 (127)	4.1
1A. Of those currently using a method (or reported a partner's use of a method), percentage that reported intention to (continue) use (or support a partner to use) a method during the next 12 months	88.4 (95)	90.5 (105)	2.1	88.8 (98)	90.1 (105)	1.3
1B. Of those intending to use a method (or reported supporting a partner to use) a method , percentage that stated:						
Male condom	35.7	40.0	4.3	43.7	44.0	0.3
Female condom	1.2	1.1	-0.1	10.3	7.7	-2.6
Combined oral contraception pill	22.6	26.3	3.7	28.7	27.5	-1.2
Implant	42.8	36.8	-6.0	32.2	31.9	-0.3
Injectables	19.0	20.0	1.0	10.3	0.0	-10.3
Intrauterine Device	4.3	4.2	-0.1	6.9	6.6	-0.3
Number of cases	84	95		87	91	
2. Percentage currently not using a method (or reported partner's use of a method)	18.8 (117)	12.5 (120)	-6.3	24.6 (130)	20.5 (127)	-4.1
2A. Of those currently not using a method (or reported a partner's use of a method), percentage that reported intention to (continue) use (or support a partner to use) a method during the next 12 months	81.8 (22)	93.3 (15)	11.5	71.9 (32)	92.3 (26)	20.4*
2B. Of those intending to use a method (or reported supporting a partner to use) a method , percentage that stated:						
Male condom	55.6	14.3	-31.3*	43.5	33.3	-10.2
Female condom	0	0	0	8.7	16.7	8.0
Combined oral contraception pill	44.4	14.2	-30.2*	17.4	25.0	7.6
Implant	33.3	64.3	31.1*	47.8	33.3	-14.5
Injectables	10.7	7.1	-3.6	13.0	8.3	-4.7
Intrauterine Device	5.6	7.1	1.5	8.7	8.3	-0.4
Number of cases	18	14		23	24	

Significant at $p \leq 0.05$ (McNemar's test)

Table 3.7I: Contraception attitudes, beliefs, and outcome expectancies among males

FP perception	Males with children		Percent point change	Males without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Difficult to have children after stopping use of contraceptives						
Strongly agree	6.9	4.3	-2.6	6.3	5.9	-0.4
Agree	27.5	17.3	-10.2*	33.3	15.3	-18.0*
Disagree	38.9	56.1	17.2*	40.5	61.9	21.4*
Strongly disagree	15.3	18.7	3.4	7.9	14.4	6.5
Don't know	9.9	3.6	-6.3	11.1	2.5	-8.6
No response	1.5	0.0	-1.5	0.8	0.0	-0.8
Ok for a young married woman to use contraception, other than condoms						
Strongly agree	25.2	25.9	0.7	11.1	21.2	10.1
Agree	50.4	58.3	7.9	55.6	55.1	-0.5
Disagree	13.7	12.2	-1.5	23.0	19.5	-3.5
Strongly disagree	6.9	0.0	-6.9	4.0	1.7	-2.3
Don't know	2.3	3.6	1.3	5.6	2.5	-3.1
No response	1.5	0.0	-1.5	0.8	0.0	-0.8
Ok for an unmarried young woman to use contraception, other than condoms						
Strongly agree	28.2	21.6	-6.6	13.5	19.5	6.0
Agree	58.0	64.0	6.0	53.2	62.7	9.5
Disagree	7.6	10.1	2.5	23.0	14.4	-8.6
Strongly disagree	3.1	2.2	-0.9	3.2	1.7	-1.5
Don't know	1.5	2.2	0.7	6.3	1.7	-4.6
No response	1.5	0.0	-1.5	0.8	0.0	-0.8
Ok for young woman with new/nursing baby to have sex if she is ready						
Strongly agree	3.8	5.8	2.0	4.8	5.9	1.1
Agree	11.5	12.9	1.4	12.7	18.6	5.9
Disagree	46.6	57.6	11.0*	54.8	54.2	-0.6
Strongly disagree	32.8	23.0	-9.8	27.0	21.2	-5.8
Don't know	3.8	0.7	-3.1	0.0	0.0	0.0
No response	1.5	0.0	-1.5	0.8	0.0	-0.8
Young woman with new/nursing baby can use contraception with no health risk to baby or mother						
Strongly agree	12.2	12.9	0.7	7.1	9.3	2.2
Agree	27.5	42.4	14.9*	29.4	44.9	15.5*
Disagree	29.8	30.9	1.1	32.5	35.6	3.1
Strongly disagree	12.2	5.0	-7.2	10.3	3.4	-6.9
Don't know	16.0	8.6	-7.4	19.8	6.8	-13.0*
No response	2.3	0.0	-2.3	0.8	0.0	-0.8
Contraception use will likely contribute to improved health of mother and baby						
Strongly agree	14.5	20.9	6.4	11.1	15.3	4.2
Agree	37.4	43.2	5.8	36.5	50.0	13.5*
Disagree	18.3	25.9	7.6	30.2	23.7	-6.5
Strongly disagree	11.5	2.2	-9.3	7.1	3.4	-3.7
Don't know	16.8	7.9	-8.9	12.7	7.6	-5.1
No response	1.5	0.0	-1.5	2.4	0.0	-2.4
Contraception use to delay pregnancy will increase opportunities to further education						
Strongly agree	62.6	52.5	-10.1*	42.9	56.8	13.9*
Agree	32.8	41.0	8.2	39.7	40.7	1.0
Disagree	2.3	5.0	2.7	11.9	2.5	-9.4

Strongly disagree	0.8	0.7	-0.1	0.0	0.0	0.0
Don't know	0.0	0.7	0.7	1.6	0.0	-1.6
No response	1.5	0.0	-1.5	4.0	0.0	-4.0
Necessary to prohibit sex for more than six months after childbirth						
Strongly agree	26.7	24.5	-2.2	21.4	22.9	1.5
Agree	41.2	47.5	6.3	47.6	53.4	5.8
Disagree	15.3	23.0	7.7	15.1	16.9	1.8
Strongly disagree	12.2	2.9	-9.3	6.3	5.9	-0.4
Don't know	2.3	2.2	-0.1	7.1	0.8	-6.3
No response	2.3	0.0	-2.3	2.4	0.0	-2.4
Using condoms interferes with sexual enjoyment						
Strongly agree	9.2	11.5	2.3	2.4	10.2	7.8
Agree	40.5	38.8	-1.7	36.5	31.4	-5.1
Disagree	38.2	36.0	-2.2	37.3	41.5	4.2
Strongly disagree	10.7	13.7	3.0	16.7	15.3	-1.4
Don't know	0.0	0.0	0.0	4.0	1.7	-2.3
No response	1.5	0.0	-1.5	3.2	0.0	-3.2
Young men who refuse to use condoms are cool						
Strongly agree	1.5	0.0	-1.5	2.4	0.0	-2.4
Agree	5.3	0.0	-5.3	4.8	0.8	-4.0
Disagree	35.1	33.1	-2.0	38.9	34.7	-4.2
Strongly disagree	55.0	64.7	9.7	50.0	63.6	13.6*
Don't know	1.5	2.2	0.7	2.4	0.8	-1.6
No response	1.5	0.0	-1.5	1.6	0.0	-1.6
Decision-maker for woman's contraceptive use						
Only the woman	17.6	15.8	-1.8	14.3	23.7	9.4
Spouse/Partner	21.4	22.3	0.9	13.5	15.3	1.8
Spouse/Partner Together	50.4	59.0	8.6	26.2	55.9	29.7*
Spouse/Partner Together with In-laws	1.5	0.7	-0.8	0.8	0.8	0.0
In-laws	0.0	0.7	0.7	0.8	0.8	0.0
Other family members	0.0	0.0	0.0	0.0	0.0	0.0
Service Provider	0.0	1.4	1.4	0.0	1.7	1.7
Other	1.5	0.0	-1.5	1.6	0.0	-1.6
Don't know	0.0	0.0	0.0	0.0	1.7	1.7
No response	7.6	0.0	-7.6	42.9	0.0	-42.9*
Number of cases	131	139	-	126	118	-

- Significant at $p \leq 0.05$ (McNemar's test)

Table 3.7.2: Contraception attitudes, beliefs, and outcome expectancies among females

FP perception	Females with children		Percent point change	Females without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Difficult to have children after stopping use of contraceptives						
Strongly agree	2.6	2.5	-0.1	3.1	2.4	-0.7
Agree	22.2	16.7	-5.5	30.0	18.1	-11.9*
Disagree	59.0	65.0	6.0	50.0	62.2	12.2*
Strongly disagree	11.1	13.3	2.2	5.4	14.2	8.8
Don't know	5.1	2.5	-2.6	9.2	3.1	-6.1
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Ok for a young married woman to use contraception, other than condoms						
Strongly agree	25.6	37.5	11.9*	29.2	33.9	4.7
Agree	53.8	52.5	-1.3	47.7	55.1	7.4
Disagree	15.4	9.2	-6.2	13.1	7.9	-5.2
Strongly disagree	4.3	0.8	-3.5	1.5	0.0	-1.5
Don't know	0.9	0.0	-0.9	5.4	3.1	-2.3
No response	0.0	0.0	0.0	3.1	0.0	-3.1
Ok for a young unmarried woman to use contraception, other than condoms						
Strongly agree	29.9	38.3	8.4	32.3	35.4	3.1
Agree	54.7	54.2	-0.5	51.5	55.1	3.6
Disagree	12.0	6.7	-5.3	9.2	4.7	-4.5
Strongly disagree	2.6	0.0	-2.6	1.5	0.8	-0.7
Don't know	0.9	0.8	-0.1	3.1	3.9	0.8
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Ok for a young woman with new/nursing baby to have sex if she is ready						
Strongly agree	11.1	8.3	-2.8	2.3	3.1	0.8
Agree	29.1	45.8	16.7*	20.8	28.3	7.5
Disagree	35.0	31.7	-3.3	44.6	50.4	5.8
Strongly disagree	19.7	10.8	-8.9	24.6	14.2	-10.4
Don't know	1.7	3.3	1.6	4.6	3.9	-0.7
No response	3.4	0.0	-3.4	3.1	0.0	-3.1
Young woman with new/nursing baby can use contraception with no health risk to baby or mother						
Strongly agree	17.9	17.5	-0.4	13.8	9.4	-4.4
Agree	53.8	63.3	9.5	46.2	56.7	10.5*
Disagree	16.2	15.0	-1.2	22.3	19.7	-2.6
Strongly disagree	6.0	2.5	-3.5	6.2	3.1	-3.1
Don't know	6.0	1.7	-4.3	9.2	11.0	1.8
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Contraception use will likely contribute to improved health of mother and baby						
Strongly agree	17.9	30.8	12.9*	10.0	18.9	8.9
Agree	54.7	56.7	2.0	50.0	48.0	-2.0
Disagree	16.2	10.0	-6.2	23.8	18.9	-4.9
Strongly disagree	2.6	0.0	-2.6	2.3	1.6	-0.7
Don't know	6.8	2.5	-4.3	10.8	12.6	1.8
No response	1.7	0.0	-1.7	3.1	0.0	-3.1
Contraception use to delay pregnancy will increase opportunities to further education						
Strongly agree	51.3	50.8	-0.5	57.7	62.2	4.5
Agree	41.9	45.0	3.1	30.8	34.6	3.8
Disagree	3.4	0.8	-2.6	6.9	3.1	-3.8

Strongly disagree	0.0	2.5	2.5	0.0	0.0	0.0
Don't know	1.7	0.8	-0.9	0.8	0.0	-0.8
No response	1.7	0.0	-1.7	3.8	0.0	-3.8
Necessary to prohibit sex for more than six months after childbirth						
Strongly agree	37.6	27.5	-10.1*	24.6	27.6	3.0
Agree	29.9	41.7	11.8*	43.8	38.6	-5.2
Disagree	14.5	25.0	10.5*	13.8	21.3	7.5
Strongly disagree	14.5	5.8	-8.7	6.2	8.7	2.5
Don't know	3.4	0.0	-3.4	9.2	3.9	-5.3
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Using condoms interferes with sexual enjoyment						
Strongly agree	12.8	7.5	-5.3	7.7	2.4	-5.3
Agree	16.2	17.5	1.3	13.1	10.2	-2.9
Disagree	51.3	52.5	1.2	46.9	58.3	11.4*
Strongly disagree	15.4	20.8	5.4	22.3	23.6	1.3
Don't know	4.3	1.7	-2.6	7.7	5.5	-2.2
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Young men who refuse to use condoms are cool						
Strongly agree	0.9	1.7	0.8	0.8	1.6	0.8
Agree	0.9	3.3	2.4	3.1	0.0	-3.1
Disagree	30.8	36.7	5.9	24.6	30.7	6.1
Strongly disagree	67.5	56.7	-10.8*	69.2	66.9	-2.3
Don't know	0.0	1.7	1.7	0.0	0.8	0.8
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Decision-maker for woman's contraceptive use						
Only the woman	43.6	60.0	16.4*	49.2	59.8	10.6
Spouse/Partner	6.8	4.2	-2.6	3.1	0.8	-2.3
Spouse/Partner Together	42.7	35.8	-6.9	37.7	36.2	-1.5
Spouse/Partner Together with In-laws	0.0	0.0	0.0	0.0	0.8	0.8
In-laws	0.0	0.0	0.0	0.8	0.0	-0.8
Other family members	6.0	0.0	-6.0	1.5	0.8	-0.7
Service Provider	0.9	0.0	-0.9	0.8	0.0	-0.8
Other	0.0	0.0	0.0	4.6	0.8	-3.8
Don't know	0.0	0.0	0.0	0.0	0.8	0.8
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Number of cases	117	120	-	130	127	-

* Significant at $p \leq 0.05$ (McNemar's test)

Table 3.8.1: Perceived self-efficacy among males

Self-efficacy/confidence	Males with children		Percent point change	Males without children		Percent point change
	Baseline	Endline		Baseline	Endline	
How confident are you that you could...						
Obtain a condom when you need one						
Definitely could not	1.5	0.0	-1.5	2.4	0.0	-2.4
Probably could not	2.3	1.4	-0.9	0.0	0.0	0.0
Probably could	11.5	9.4	-2.1	11.1	12.7	1.6
Definitely could	83.2	89.2	6.0	84.1	87.3	3.2
Don't know/unsure	0.8	0.0	-0.8	1.6	0.0	-1.6
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
Support your partner to use method if you do not desire for her to get pregnant						
Definitely could not	3.8	0.7	-3.1	3.2	1.7	-1.5
Probably could not	2.3	0.7	-1.6	4.8	3.4	-1.4
Probably could	9.9	5.8	-4.1	15.1	12.7	-2.4
Definitely could	80.9	92.8	11.9*	70.6	81.4	10.8
Don't know/unsure	2.3	0.0	-2.3	4.0	0.8	-3.2
No response	0.8	0.0	-0.8	2.4	0.0	-2.4
Support your partner to use method even if your parents/in-laws did not approve						
Definitely could not	7.6	3.6	-4.0	8.7	3.4	-5.3
Probably could not	4.6	2.2	-2.4	4.0	5.1	1.1
Probably could	6.9	11.5	4.6	15.9	16.1	0.2
Definitely could	77.9	81.3	3.4	66.7	75.4	8.7
Don't know/unsure	2.3	1.4	-0.9	4.0	0.0	-4.0
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
Talk to your partner about using contraception						
Definitely could not	0.8	0.0	-0.8	3.2	0.8	-2.4
Probably could not	0.0	0.7	0.7	2.4	0.0	-2.4
Probably could	6.9	4.3	-2.6	5.6	2.5	-3.1
Definitely could	91.6	95.0	3.4	88.1	96.6	8.5
Don't know/unsure	0.0	0.0	0.0	0.0	0.0	0.0
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
Number of cases	131	139	-	126	118	-

* Significant at $p \leq 0.05$ (McNemar's test)

Table 3.8.2: Perceived self-efficacy among females

Self-efficacy/confidence	Females with children		Percent point change	Females without children		Percent point change
	Baseline	Endline		Baseline	Endline	
How confident are you that you could...						
Visit a facility to get contraception						
Definitely could not	91.5	90.8	-0.7	72.3	83.5	11.2*
Probably could not	6.8	5.8	-1.0	21.5	9.4	-12.1*
Probably could	0.9	2.5	1.6	1.5	2.4	0.9
Definitely could	0.9	0.8	-0.1	0.8	2.4	1.6
Don't know/unsure	0.0	0.0	0.0	1.5	2.4	0.9
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Use a contraceptive method if you do not desire to get pregnant						
Definitely could not	92.3	96.7	4.4	82.3	89.8	7.5
Probably could not	5.1	3.3	-1.8	13.1	9.4	-3.7
Probably could	0.0	0.0	0.0	1.5	0.8	-0.7
Definitely could	1.7	0.0	-1.7	0.0	0.0	0.0
Don't know/unsure	0.9	0.0	-0.9	0.8	0.0	-0.8
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Use a contraceptive method even if your parents/in-laws did not approve						
Definitely could not	86.3	83.3	-3.0	70.0	72.4	2.4
Probably could not	6.8	12.5	5.7	15.4	21.3	5.9
Probably could	3.4	2.5	-0.9	3.1	4.7	1.6
Definitely could	3.4	1.7	-1.7	6.2	0.8	-5.4
Don't know/unsure	0.0	0.0	0.0	3.1	0.8	-2.3
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Talk to your partner about using contraception						
Definitely could not	94.0	95.8	1.8	84.6	89.8	5.2
Probably could not	2.6	3.3	0.7	9.2	7.1	-2.1
Probably could	0.9	0.0	-0.9	0.8	2.4	1.6
Definitely could	1.7	0.8	-0.9	1.5	0.8	-0.7
Don't know/unsure	0.0	0.0	0.0	0.8	0.0	-0.8
No response	0.9	0.0	0.0	3.1	0.0	-3.1
Number of cases	117	120	-	130	127	-

* Significant at $p \leq 0.05$ (McNemar's test)

Table 3.9.1: Potential Barriers to Contraceptive Use Among Males

Potential barriers	Males with children		Percent point change	Males without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Going to a facility for condom is embarrassing						
Strongly agree	4.6	2.2	-2.4	6.3	1.7	-4.6
Agree	5.3	5.0	-0.3	9.5	7.6	-1.9
Disagree	39.7	41.7	2.0	46.0	51.7	5.7
Strongly disagree	49.6	51.1	1.5	37.3	38.1	0.8
Don't know	0.0	0.0	0.0	0.0	0.0	0.0
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
A health provider has treated you with disrespect in the past						
Strongly agree	10.7	4.3	-6.4	1.6	3.4	1.8
Agree	8.4	15.8	7.4	7.1	11.0	3.9
Disagree	44.3	57.6	13.3*	60.3	66.9	6.6
Strongly disagree	35.9	22.3	-13.6*	29.4	18.6	-10.8
Don't know	0.0	0.0	0.0	0.8	0.0	-0.8
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
If you have questions or concerns about contraception, you trust the health worker at the health facility to help you						
Strongly agree	44.3	44.6	0.3	35.7	40.7	5.0
Agree	49.6	51.8	2.2	55.6	52.5	-3.1
Disagree	1.5	1.4	-0.1	3.2	3.4	0.2
Strongly disagree	1.5	0.7	-0.8	1.6	1.7	0.1
Don't know	2.3	1.4	-0.9	2.4	1.7	-0.7
No response	0.8	0.0	-0.8	1.6	0.0	-1.6
The distance to your nearest condom distributor makes it difficult for you to get condom						
Strongly agree	4.6	2.2	-2.4	1.6	2.5	0.9
Agree	11.5	10.1	-1.4	9.5	12.7	3.2
Disagree	55.7	64.7	9.0	69.8	65.3	-4.5
Strongly disagree	27.5	22.3	-5.2	18.3	19.5	1.2
Don't know	0.0	0.7	0.7	0.0	0.0	0.0
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
The cost for transportation to nearest condom distributor makes it difficult for you to get condom						
Strongly agree	3.1	1.4	-1.7	2.4	0.8	-1.6
Agree	12.2	13.7	1.5	10.3	14.4	4.1
Disagree	55.0	62.6	7.6	65.1	71.2	6.1
Strongly disagree	29.0	22.3	-6.7	20.6	12.7	-7.9
Don't know	0.0	0.0	0.0	0.8	0.8	0.0
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
Transportation is readily available if you need to travel to get condom						
Strongly agree	28.2	33.8	5.6	23.0	33.1	10.1
Agree	55.0	57.6	2.6	57.1	55.9	-1.2
Disagree	14.5	7.2	-7.3	15.1	7.6	-7.5
Strongly disagree	1.5	1.4	-0.1	4.0	2.5	-1.5
Don't know	0.0	0.0	0.0	0.0	0.8	0.8
No response	0.8	0.0	-0.8	0.8	0.0	-0.8
Do you know where you can go to get methods to prevent pregnancy?						
Yes	87.8	99.3	11.8*	84.9	93.2	8.3
No	7.6	0.0	-7.6	8.7	4.2	-4.5

No response	4.6	0.7	-3.9	6.3	2.5	-3.8
Number of cases	131	139	-	126	118	-

* Significant at $p \leq 0.05$ (McNemar's test)

Table 3.9.2: Potential Barriers to Contraceptive Use Among Females

Potential barriers	Females with children		Percent point change	Females without children		Percent point change
	Baseline	Endline		Baseline	Endline	
Going to a facility for contraception is embarrassing						
Strongly agree	0.0	2.5	2.5	4.6	3.9	-0.7
Agree	8.5	1.7	-6.8	17.7	10.2	-7.5
Disagree	52.1	50.8	-1.3	50.8	52.0	1.2
Strongly disagree	38.5	45.0	6.5	24.6	33.9	9.3
Don't know	0.9	0.0	-0.9	0.0	0.0	0.0
No response	0.0	0.0	0.0	2.3	0.0	-2.3
A health provider has treated you with disrespect in the past						
Strongly agree	7.7	3.3	-4.4	1.5	7.1	5.6
Agree	14.5	10.0	-4.5	10.0	9.4	-0.6
Disagree	53.8	74.2	20.4*	70.8	67.7	-3.1
Strongly disagree	23.9	12.5	-11.4*	14.6	15.7	1.1
Don't know	0.0	0.0	0.0	0.8	0.0	-0.8
No response	0.0	0.0	0.0	2.3	0.0	-2.3
If you have questions or concerns about contraception, you trust the health worker at the health facility to help you						
Strongly agree	33.3	36.7	3.4	31.5	26.8	-4.7
Agree	62.4	55.8	-6.8	60.8	68.5	7.7
Disagree	2.6	6.7	4.1	0.8	4.7	3.9
Strongly disagree	0.9	0.8	-0.1	1.5	0.0	-1.5
Don't know	0.9	0.0	-0.9	3.1	0.0	-3.1
No response	0.0	0.0	0.0	2.3	0.0	-2.3
The distance to nearest health facility makes it difficult for you to get contraception						
Strongly agree	2.6	0.0	-2.6	2.3	0.0	-2.3
Agree	11.1	11.7	0.6	22.3	18.1	-4.2
Disagree	66.7	72.5	5.8	57.7	62.2	4.5
Strongly disagree	19.7	15.8	-3.9	15.4	18.9	3.5
Don't know	0.0	0.0	0.0	0.0	0.8	0.8
No response	0.0	0.0	0.0	2.3	0.0	-2.3
The cost for transportation to nearest health facility makes it difficult for you to get contraception						
Strongly agree	0.9	0.8	-0.1	3.1	3.1	0.0
Agree	7.7	14.2	6.5	21.5	14.2	-7.3
Disagree	70.1	70.0	-0.1	52.3	70.1	17.8*
Strongly disagree	21.4	15.0	-6.4	20.8	12.6	-8.2
Don't know	0.0	0.0	0.0	0.0	0.0	0.0
No response	0.0	0.0	0.0	2.3	0.0	-2.3
Transportation is readily available if you need to travel to your nearest health facility to get contraception						
Strongly agree	41.0	25.0	-16.0*	31.5	29.9	-1.6
Agree	48.7	55.8	7.1	45.4	48.0	2.6
Disagree	7.7	15.8	8.1	18.5	18.9	0.4
Strongly disagree	2.6	3.3	0.7	1.5	3.1	1.6
Don't know	0.0	0.0	0.0	0.0	0.0	0.0
No response	0.0	0.0	0.0	3.1	0.0	-3.1
Do you know where you can go to get methods to prevent pregnancy?						
Yes	94.0	95.8	1.8	82.3	92.1	9.8

No	6.0	4.2	-1.8	7.7	1.6	-6.1
No response	0.0	0.0	0.0	10.0	6.3	-3.7
Number of cases	117	120	-	130	127	-

* Significant at $p \leq 0.05$ (McNemar's test)

Table 3.10: Percentage of mCenas clients by acceptability of mCenas in Mozambique

Acceptability of the SMS intervention	Male		Female	
	With children	Without children	With children	Without children
You felt comfortable sending and receiving SMS messages about sexual and reproductive health				
<i>Strongly agree</i>	56.8	57.6	73.3	67.7
<i>Agree</i>	38.8	32.2	24.2	28.3
<i>Disagree</i>	0.0	0.0	0.8	0.0
<i>Strongly disagree</i>	0.0	0.0	0.0	0.0
<i>Don't know</i>	0.0	0.8	0.0	0.0
<i>Missing</i>	4.3	9.3	1.7	3.9
You would be interested in getting sexual and reproductive health information through SMS again				
<i>Strongly agree</i>	49.6	54.2	70.0	65.4
<i>Agree</i>	44.6	35.6	28.3	30.7
<i>Disagree</i>	0.0	0.0	0.0	0.0
<i>Strongly disagree</i>	0.0	0.0	0.0	0.0
<i>Don't know</i>	0.7	0.8	0.0	0.0
<i>Missing</i>	5.0	9.3	1.7	3.9
Was the number of mCenas messages too many, just enough, or too few				
<i>Too many</i>	5.8	8.5	5.0	7.1
<i>Just enough</i>	61.2	50.8	69.2	62.2
<i>Too few</i>	26.6	28.0	24.2	26.0
<i>Don't know</i>	2.2	3.4	0.0	0.8
<i>Missing</i>	4.3	9.3	1.7	3.9
Was the length of mCenas messages too long, long enough, or too short?				
<i>Too long</i>	15.1	12.7	21.7	19.7
<i>Long enough</i>	69.8	66.9	68.3	71.7
<i>Too short</i>	6.5	7.6	8.3	4.7
<i>Don't know</i>	4.3	3.4	0.0	0.0
<i>Missing</i>	4.3	9.3	1.7	3.9
Were you comfortable with the days of the week the mCenas messages were sent?				
<i>Yes</i>	93.5	89.8	97.5	93.7
<i>No</i>	2.2	0.8	0.0	2.4
<i>Don't know</i>	0.0	0.0	0.8	0.0
<i>Missing</i>	4.3	9.3	1.7	3.9
Were you comfortable with the times of the day that the mCenas messages were sent?				
<i>Yes</i>	89.9	86.4	95.8	92.1
<i>No</i>	5.8	3.4	2.5	3.1
<i>Don't know</i>	0.0	0.8	0.0	0.8
<i>Missing</i>	4.3	9.3	1.7	3.9
Which problems did you experience during the mCenas intervention?				
<i>Problem sending messages to mCenas</i>	18.0	11.9	23.3	13.4
<i>Problem receiving messages from mCenas</i>	9.4	4.2	10.8	10.2
<i>Phone network failures</i>	30.2	19.5	26.7	16.5
<i>Could not charge phone</i>	17.3	10.2	10.8	15.0
<i>Phone lost</i>	19.4	16.9	11.7	13.4
<i>Phone stolen</i>	10.8	13.6	7.5	8.7
<i>Phone broken</i>	15.1	13.6	11.7	10.2
<i>Other</i>	3.6	5.1	2.5	1.6

Percentage that shared the mCenas messages with partner(s), friends, or family?				
Partner(s)	62.6	60.2	65.0	52.8
Friends	53.2	56.8	46.7	60.6
Family	26.6	25.4	38.3	39.4
Would you recommend mCenas to a friend?				
Yes	93.5	89.0	96.7	92.1
No	0.0	0.8	1.7	2.4
Don't know	2.2	0.8	0.0	1.6
Missing	4.3	9.3	1.7	3.9
Did the mCenas information help you to decide to use a contraceptive method?				
Yes	86.3	78.8	79.2	78.7
No	9.4	8.5	17.5	16.5
Don't know	0.0	3.4	1.7	0.8
Missing	4.3	9.3	1.7	3.9
In the story messages, the characters were faced with several issues surrounding sex and contraception. Were these issues very clear, clear, or not clear?				
Very clear	16.5	20.3	20.0	15.7
Clear	56.1	56.8	57.5	57.5
Not clear	5.0	6.8	6.7	5.5
Don't know	2.9	1.7	1.7	0.8
Missing	19.4	14.4	14.2	20.5
Did you know during the mCenas intervention, you had access to a menu where you could ask for additional information on contraceptive methods (contraceptive methods menu)?				
Yes	53.4	47.7	80.0	70.1
No	46.4	52.3	20.0	29.9
Of those who knew about contraceptive methods menu, percentage that accessed it				
Accessed it	47.9	54.9	63.5	53.9
Didn't access it	52.1	45.1	36.5	46.1
Of those who accessed contraceptive methods menu, the percentage that reported that the menu was very clear, clear, or not clear				
Very clear	29.4	10.7	21.3	27.1
Clear	70.6	85.7	75.4	70.8
Not clear		3.6	3.3	
Don't know				2.1
Of those who accessed contraceptive methods menu, percentage that reported that the menu topics were useful				
Useful	100.0	100.0	100.0	97.9
Not useful				2.1
Of those who accessed contraceptive methods meny, percentage that reported the following topics to be most useful				
Implants	64.7	57.1	62.3	66.0
IUD	29.4	46.4	34.4	40.4
Injectables (Depo)	17.6	10.7	44.3	34.0
Pill	26.5	39.3	52.5	55.3
Male condom	47.1	64.3	57.4	66.0
Female condom	17.6	17.9	37.1	51.1
LAM	2.9	3.6	23.0	23.4
EC	20.6	7.1	27.9	40.4
Comparing method effectiveness	8.8	7.1	13.1	19.1
Where to get methods	11.8	17.9	49.2	44.7

Did you know during the mCenas intervention, you had access to a menu where you could ask for additional information on sexual and reproductive health topics (sexual and reproductive health menu)?				
Yes	49.6	46.7	75.4	69.7
No	50.4	53.3	24.6	30.3
Of those who knew about the SRH menu, percentage that accessed it				
Accessed it	43.9	48.0	50.0	55.3
Didn't access it	56.1	52.0	50.0	44.7
Of those who accessed the SRH menu, the percentage that reported that the menu was very clear, clear, or not clear				
Very clear	27.6	25.0	17.4	19.1
Clear	69.0	66.7	71.7	74.5
Not clear			8.7	6.4
Don't know	3.4	8.3		
N/A			2.2	
Of those who accessed the SRH menu, the percentage that reported that the menu topics were useful				
Useful	96.6	100.0	95.7	95.7
Not useful	3.4		2.2	4.3
Missing			2.2	
Of those who accessed the SRH menu, the percentage that reported the following topics to be most useful				
Am I ready for sex?	35.7	58.3	64.4	62.2
Am I ready to have children?	25.0	25.0	40.0	48.9
Could I have an STI/HIV?	7.1	25.0	31.1	53.3
HIV and pregnancy	50.0	20.8	31.1	64.4
Could I be pregnant?	7.1	25.0	53.3	53.3
Masturbation	39.3	33.3	17.8	42.2
Sex and violence	14.3	20.8	20.0	53.3
Circumcision	17.9	29.2	33.3	26.7
Post-abortion	3.6	12.5	40.0	68.9
Personal hygiene	39.3	45.87	60.0	86.7
Sex after birth	17.9	20.8	42.2	53.3
Pleasure	25.7	37.5	40.0	82.2
Menstruation	14.3	25.0	48.9	68.9
Do you want to know more	28.6	33.3	40.0	68.2
Of the three approaches used by mCenas to send messages, which one did you like the best?				
Stories	27.3	30.5	37.5	26.8
Method messages	36.7	30.5	40.8	48.8
Menus	12.2	12.7	8.3	11.0
Don't know	4.3	6.8	5.0	3.1
Missing	19.4	19.4	8.3	10.2
Would you be willing to pay for receiving sexual and reproductive health information like mCenas?				
Yes	90.6	88.1	90.8	93.7
No	8.6	9.3	6.7	5.5
Don't know	0.7	2.5	2.5	0.8
Total	139	118	120	127

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