The Experience and Impact of Contraceptive Stockouts Among Women, Providers and Policymakers in Two Districts of Uganda

***CONTEXT**: Little is known about the impact of contraceptive stockouts on women and health care providers, or how policymakers perceive and handle such stockouts.*

***METHODS**: In May–July 2015, a qualitative study on experiences of contraceptive stockouts was conducted in two districts of Uganda. It comprised three data collection components: eight focus groups with 50 women, 24 individual in-depth interviews with family planning service providers and facility managers, and 11 in-depth interviews with district-level policymakers and decision makers. Data analysis followed the content analysis approach.*

***RESULTS**: Contraceptive stockouts were common, particularly for long-term methods and oral contraceptives. For women, the consequences included stress, increased costs, domestic conflict, and unwanted or unplanned pregnancies. Providers reported emotional distress, blame from clients, deterioration of skills and lower demand for their services as a result of stockouts; they also felt unable to address stockouts under current supply systems. Despite the widespread prevalence and adverse impact of stockouts, policymakers reported being unaware of the scope of the problem.*

***CONCLUSIONS**: The findings suggest there is a critical need to raise awareness of the issue, reduce stockouts and mitigate their negative consequences. Efforts to eliminate stockouts should include addressing supply chain issues. Raising community awareness and engaging with men on family planning may be ways to deal with the consequences of stockouts.*

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In 2011, one in every four women in developing countries who wanted to avoid becoming pregnant had an unmet need for modern contraception.[1] There are a multitude of reasons for unmet need, one of which is insufficient access to contraceptive services and supplies.[1] Ensuring access to contraception is one of the most critical and cost-effective means of improving women and children's health and reducing maternal mortality,[2–4] which is why it is crucial to examine the effect of contraceptive stockouts. The World Health Organization has identified addressing contraceptive stockouts as one of the top 15 priorities for global family planning research.[5]

Contraceptive stockouts occur when one or more contraceptive options are unavailable at a health facility that routinely provides that method, or that–based on policy–should be providing that method. According to United Nations Population Fund data from 2014, more than 60% of public and private facilities were out of at least one modern method on the day of survey in the 28 countries for which these data were available; in Uganda, 79% of facilities had a stockout of at least one modern method at the time of the survey.[6] Few published studies include data on contraceptive stockouts, and those that do primarily focus on the prevalence of stockouts or generally note stockouts as one of many factors impeding contraceptive access, uptake and continuation.[1,7–13] Little is known about the direct impact of contraceptive stockouts, including what women do when faced with a stockout, the effects that stockouts have on women's lives, and how health care providers and policymakers perceive and handle stockouts.

The aim of this study was to explore the experience and impact of contraceptive stockouts on women, providers and policymakers in two districts of Uganda. Our objectives were to assess the perceived magnitude, scope and causes of contraceptive stockouts; identify how women and providers coped with stockouts; and describe the consequences of stockouts for women and health care providers.

CONTEXT

In Uganda, family planning services are provided by private for-profit and nonprofit facilities, as well as by public facilities. Public health services are delivered at five levels of care.[14] A health center level II (HC II) serves a parish, a health center level III (HC III) serves a subcounty, a health center level IV (HC IV) serves a county and a hospital serves a district. In addition, lay health teams at the village level, the smallest administrative unit, serve as a link between the community and HC II facilities by providing advice and referrals for service. All public health facilities are expected to offer family planning services for free, but

the number and type of methods offered change with the level of the health facility—short-term methods are available at level II facilities; short-term methods and long-acting reversible contraceptives at level III facilities; and all family planning methods, including long-acting reversible contraceptives and permanent methods (vasectomy and tubal ligation), at level IV facilities and hospitals.

The system used to obtain contraceptive supplies varies by facility type. At higher-level public facilities (level IV and above), preset order forms are used for requesting family planning supplies from National Medical Stores, the governmental organization that distributes medical supplies. In these facilities, supplies are delivered every two months. At lower-level public facilities (levels II and III), supplies are received through a "push system" rather than the requisition system used at higher-level facilities. Each lower-level facility receives a standard medicine kit quarterly, the contents of which are decided on annually at the district level. Although the kits differ from one facility level to another, they are the same for all facilities at a specific level, regardless of facility-specific differences, such as patient load or prescribing patterns. If a product runs out, the facility informs the District Health Office and obtains supplies from neighboring heath facilities whenever possible. Private for-profit facilities procure their supplies from the open market in pharmacies, and at times partner with nongovernmental organizations to provide family planning services at a reduced cost.

METHODS

Setting

A qualitative study was conducted between May and July 2015 in the Kamuli and Mbarara districts in Uganda. We included two districts to allow for a comparison between a district characterized by higher socioeconomic status (Mbarara, in southwestern Uganda) and one characterized by lower socioeconomic status (Kamuli, in eastern Uganda). Mbarara district has a population of 474,144, of whom 52% are female. Kamuli district has a population of 490,255, with the same proportion of women as Mbarara.[15]

Data collection had three components: eight focus groups with a total of 50 women, 24 individual in-depth interviews with family planning service providers and facility managers and 11 in-depth interviews with district-level policymakers and decision makers. Inclusion criteria for the focus group discussions were being female; being aged 18–45; being able to understand English, Runyankore or Lusoga; and having ever used or tried to use a method of family planning. Focus groups were stratified by socioeconomic status (low-middle, high) and age (18–25 years, 26–45 years). The socioeconomic status of potential focus group participants was determined by occupation and estimated income. Women who engaged in agriculture or small-scale family businesses and women who were unemployed (including housewives and students) were classified as being of low socioeconomic status because they did not have a stable source of income under their control. Women selling foodstuffs and other merchandise in local markets (working in "small businesses") were regarded as being of middle socioeconomic status, and professionals were classified as being of high socioeconomic status.

We used purposive sampling to recruit women of different ages and socioeconomic strata for the focus groups. In rural areas, focus group participants were selected from among women who were clients of or visitors to a health facility randomly selected to participate in the study (i.e., from which a provider was selected). In urban areas, we used purposive and convenience sampling to recruit focus group participants not linked to a health facility. These participants were selected from spaces in which we could expect to find 10 or more women; thus, focus group members were recruited from markets, secondary and primary schools, and banks. The group discussions were conducted in school libraries, health centers, classrooms and banks after hours, as well as in open spaces near markets and in spaces provided by community members.

Inclusion criteria for providers were being a health service provider or a manager at a health facility that provided family planning. In-depth interviews with providers and health facility managers were conducted at a purposively sampled range of facility types, including level II–IV public facilities, private for-profit facilities and private nonprofit facilities. Providers from private facilities and both higher-level and lower-level public facilities were included to take into account the differing supply distribution systems for different facility levels and types, which affect the range of methods that are offered and the functioning of the supply chain. For in-depth interviews with policymakers and decision makers, we selected district health officers, district-level elected officials, and family planning managers at nongovernmental organizations. The in-depth interviews for both providers and policymakers were conducted in interviewees' offices.

Focus groups and in-depth interviews were conducted by two of the study team members in the language that participants were most comfortable with (English, Runyankore or Lusoga), and used set discussion guides, developed by the study team, to ensure that the topics covered were similar across discussion groups and interviews. All study participants provided written informed consent. Ethical review approval was obtained from the Allendale Investigational Review Board, the Uganda National Council for Science and Technology, and the Mbarara University of Science and Technology Research Ethics Committee.

Participants completed a short survey of demographic information prior to beginning the focus group discussion or interview. Topics of discussion for the focus groups included women's experiences obtaining contraceptives, knowledge of contraceptive methods, knowledge of and experience with stockouts, stockout coping mechanisms used by participants and others they know, and the impact of stockouts on participants and others they know. On average, the focus group discussions lasted approximately two hours.

Topics covered in the in-depth interviews with providers and health facility managers included frequency of stockouts, coping with stockouts, perceptions of the impact of stockouts, assessment of the importance of stockouts, perceived ability of facility managers to influence stockouts, the identification of decision makers who might be able to address stockouts, and the potential for advocacy to reduce stockouts by providers within health service and other professional organizations.

Topics covered in the in-depth interviews with policymakers and decision makers included knowledge about and the perceived importance of contraception, awareness of stockouts, perception of the impact of stockouts, perception of their ability to influence stockouts, information that could help them raise the profile of the issue and potential strategies to address stockouts. The in-depth interviews with providers and policymakers lasted, on average, 30–60 minutes.

All interviews and focus group discussions were digitally recorded. Audio recordings were transcribed verbatim; after transcription, the data were translated into English. Four of the study authors participated in data analysis. A manual cut-and-paste method was used to organize the data according to the preset questions and themes in the interview guides. Data analysis followed the content analysis approach. All information that might identify interview and focus group participants was removed. Quotations in this article are identified by interview or focus group type, the facility type (for providers only) or focus group strata (socioeconomic status and age-group) and district.

TABLE 1. Percentage distribution of women aged 18–45 participating in focus group discussions on the experience of contraceptive stockouts, by selected characteristics, Kamuli and Mbarara districts, Uganda, 2015

Characteristic	% (N=50)
Residence	
Urban	46.0
Rural	54.0
Relationship status	
Married	76.0
Never married, in steady relationship	16.0
Widowed	4.0
Separated/divorced	2.0
Never married, not in steady relationship	2.0
Occupation	
Professional	38.0
Small business	36.0
Agriculture	14.0
Housewife	6.0
Student	6.0
Education level	
Primary	26.0
Secondary	34.0
Tertiary	40.0
Ability to read	
Easily	94.0
With difficulty	6.0
Total	100.0

TABLE 2. Number of participants in in-depth interviews on the experience of contraceptive stockouts, by type and selected characteristics

Characteristic	No.
HEATH CARE PROVIDERS (N=24)	
Gender	
Male	5
Female	19
Median age (range)	34 (22–58)
Education level	
Secondary	1
Tertiary	23
Facility location	
Urban	8
Rural	16
POLICYMAKERS/DECISION MAKERS (N=11)	
Gender	
Male	11
Female	0
Median age (range)	43 (34–59)
Position	
District health officer	2
Supplies manager	4
Nongovernmental organization program manager	3
Politician (secretary for social services)	2
Years in position	
1–5	5
6–14	6

Notes: Unless otherwise noted, figures given are absolute numbers.

RESULTS

Participant Characteristics

Most focus group participants were married (76%) and were employed or engaged in an income-generating activity (88%; Table 1). Forty percent of women had completed postsecondary education, which was similar to the percentage of participants reporting they were in professional occupations, such as teaching (38%).

Nineteen of the 24 health care providers who participated in this study were female (Table 2). The median age for providers was 34 years (range, 22–58). All of the participating policymakers and decision makers were male; their median age was 43 years (range, 34–59). The policymakers and decision makers had served in their respective positions for periods ranging from one to 14 years.

Frequency and Type of Stockouts

Women and providers reported that stockouts were common and pervasive. Stockouts varied by facility and method type, with providers at private facilities less likely than those at public facilities to report experiencing contraceptive stockouts. Providers reported that progestin-only pills had been out of stock for years in most public facilities, and that combined oral contraceptives were often supplied in such small quantities that there was a chronic stockout of them as well. Both women and providers reported that long-acting methods, including implants and IUDs, were frequently unavailable. As one provider from an HC IV facility in Mbarara explained,

"Especially the pills [are out of stock].... Sometimes we spend like five months without pills. Even these long-term implant and IUD methods are also out of stock."

However, stockouts did not affect all methods. Condoms were readily available, and only one provider in the Kamuli district reported a stockout of injectables. The perception of women and providers was that injectables were always available. Two providers reported:

"The IUDs and the implants mostly [are out of stock].... We have Depo [injectables], but we normally get stockouts of COCs [combined oral contraceptives]." —*provider, HC III facility, Mbarara*

"Nowadays, we giving only Depo [injectables] and condoms, we don't have the other types of family planning.... Since I came here in 2013, I have never seen Implanons [implants].... It is those pills and Implanons which are most frequently out of stock.... We have never got out of stock of Depo...Depo is there in plenty."—*provider, HC IV facility, Kamuli*

The method availability women and providers reported when discussing stockouts was reflected in current contraceptive method use among focus group participants (Table 3). More than one-third of women reported using injectables (38%). There was also strong consistency between women's and providers' reports of stockouts by method. However, district-level politicians and decision makers generally said they were not aware of stockouts, stating they had not heard any complaints and therefore felt it was a nonissue.

"If I don't get communication from the in-charges, I may not be aware [of stockouts] unless I go for supervision, though you know supervisions are not regular." —*policymaker, Kamuli*

"No, I don't think it [stockouts] is a problem.... For family planning, I have not heard any complaint [of stockouts], so I don't know if it's because people don't approach me in that context."—*policymaker, Mbarara*

Perceived Causes of Stockouts

Women were unaware of the causes of stockouts and frequently blamed providers. They felt that providers withheld the method. Speaking hypothetically, most of the policymakers and decision makers interviewed said they were not sure what could cause contraceptive stockouts.

TABLE 3. Percentage distribution of focus group participants, by current contraceptive method choice

Method	% (N=50)
Injectable	38.0
Implant	12.0
IUD	8.0
Pill	8.0
Male condom	8.0
Female sterilization	4.0
Rhythm	2.0
None	20.0
Total	100.0

Providers cited a range of causes for stockouts, with several themes emerging, including supply chain processes and deprioritization of contraception.

• ***Supply chain processes.*** Providers reported that one cause of stockouts was suboptimal supply chain planning and requisition processes. They said that long-term methods such as the IUD were not included on the preset order form used at higher-level public facilities for requesting family planning supplies from the National Medical Stores, and therefore required more paperwork. Providers noted that this added step in the ordering process created a hurdle to obtaining these methods.

At lower-level public facilities, which received a set amount of supplies in standard medicine kits through a "push system," providers felt that their lack of involvement in kit development led to stockouts at these facilities. As one provider said:

"Ideally, it is supposed to be the facilities [who order the supplies], but at [the public facility] level III, they do a 'push' method. They [the government] sit there and determine a kit that they will bring to every unit. So for us, we are at the receiving end, we receive what is in the kit. But I don't know what happened, in that kit, there are no family planning supplies. We wonder, how can there be no commodities in a kit for one year and for us, we are sitting [waiting]. We talked about such issues of family planning commodities and we considered that they should be put back in the kit.... So we are waiting for next financial year."—*provider, HC III facility, Kamuli*

Responding to the issue of standard medicine kits lacking methods that are expected at the facilities, a policymaker from Kamuli explained, "You know [providers] are supposed to fill in those discrepancy forms, but they are not honored by NMS [National Medical Stores]. [They] fill [discrepancy forms] and nothing happens, so the health workers and the stores assistants give up, so it is a challenge."

Providers from private facilities suggested that a lack of reliable suppliers contributed to their stockouts. As one such provider stated:

"Something I have come to realize is that if you are to get supplies, you should remain steady and have a steady supplier because one of the reasons we had stockouts before is that we have not had a stable supplier.... For the private pharmacies, sometimes you go there and find that they also have stockouts. Therefore, with a stable supplier like JMS [Joint Medical Store, a private, nonprofit nongovernmental organization that sells medical supplies] or NMS [National Medical Stores], that would be better."—*provider, private for-profit facility, Mbarara*

Providers suggested that inaccurate demand forecasting at higher-level facilities also led to stockouts. Most facilities used the number of methods previously dispensed as opposed to demand to generate forecasts. An additional contributing factor to stockouts was limited provider input and feedback. Providers reported that they were expected to record or report all supply

discrepancies to either the District Health Office or the National Medical Stores. However, providers stated that the reports had little to no impact on fixing the discrepancy. Instead, they had to wait for the next scheduled supply distribution. Furthermore, given that district-level politicians and decision makers generally stated that they were not aware of stockouts, feedback mechanisms appeared to be inadequate.

In addition, all providers and policymakers interviewed noted that family planning commodities and services were free to health facilities. Providers and policymakers reported that national funds were deposited at National Medical Stores to purchase essential drugs for every facility, and that procuring family planning commodities did not draw from these funds. Providers at public facilities reported that, without a dedicated budget for family planning, facilities were unable to obtain supplies from other sources when the National Medical Stores failed to provide adequate supplies of methods. Occasionally facilities were able to obtain supplies from another health center through a transfer of supplies sanctioned by the Ministry of Health, although it was unclear from respondents who paid for transport of supplies in such circumstances.

• *Deprioritization*. Providers and policymakers explained that most contraception-related indicators were not core measures used to assess facility performance by the Ministry of Health. Only the injectable was reported to be used as a tracer drug to assess supply chain performance, which may explain why it was nearly always in stock.

Coping Strategies

Women and providers employed several strategies when faced with a stockout. Most frequently, women reported going to another facility, clinic or pharmacy to procure their preferred method. Often, providers would help by referring them to specific facilities or calling to check stock. Because women actively sought methods from multiple facilities, they did not see stockouts as a major contributor to method discontinuation.

"Women always try by all means to go everywhere looking for their method."—*woman, 26–45, low-to-middle income, Mbarara*

"Since I do not want to produce more children, I try by all means to see that I get it from pharmacies and clinics. You can think hard [about all of the possible solutions] if it means borrowing 1,000 [Ugandan shillings (USh)] from a friend, or you can sell maize to get the money."—*woman, 18–25, low-to-middle income, Kamuli*

If women could not obtain their preferred method, they reported occasionally changing to an alternative method, assisted by provider counseling. However, this tended to result in a shift to less-effective alternatives like condoms or withdrawal. Changing methods could pose difficulties for some women, particularly those who used family planning without their partner's knowledge. One commented:

"Most men don't want their women to use family planning.... They become quarrelsome so sometimes we have to use family planning without the knowledge of our husbands, which is not easy."—*woman, 26–45, low-to-middle income, Mbarara*

Participants also described challenges that women face in trying to convince men to use condoms or withdrawal if their preferred method is not available. A provider stated:

"Women come often for family planning, and when it is out of stock,...we have to convince them to take condoms, but they complain, saying their men might not allow [them] to use them."—*provider, HC IV facility, Mbarara*

Many women or their partners did not want to use alternative methods, and in those cases, women would often wait for supplies while abstaining from sexual activity. However, abstinence could be difficult for some women to negotiate with their partners. One told us:

"[When faced with a stockout], I refuse [to have sex]. At least I can [pretend to] fall sick, as I am planning to go to the clinic to get the family planning method I want." —*woman, 26–45, low-to-middle income, Kamuli*

Consequences for Women

When asked about their opinions of contraceptive stockouts, most women's initial reaction was that they were normal because they were not used to having easy access to medicines in general. As a result, they had low expectations for the availability of family planning methods. However, when probed about the impact of stockouts, women reported numerous negative consequences, the most common of which were unplanned and unwanted pregnancies. As one provider explained:

"[You] find my clients sometimes they come and they are like, 'You know the other time I came and asked you to give me an injection and it was not there, now it seems I am pregnant.' "—*provider, HC IV facility, Mbarara*

Women also reported stress from worrying about the possibility of an unwanted pregnancy. A woman described a time when she faced a stockout: "It happened to me once when I went to the dispensary and didn't find Microgynon.... I went to the clinics and also failed to get, so that night I slept on tension and worried that I could get pregnant."—*woman, 26–45, low-to-middle income, Mbarara*

Also, women faced stress when they were unable to procure their preferred method and had to abstain from sex. A subset of these women experienced undue stress from lying to their partner about being sick or menstruating to avoid sexual activity when their contraceptive method was not available. One explained the distress that stockouts caused:

"Of course you become worried thinking maybe in those two days you have got pregnant...and of course when you get worried, you lose that appetite that they talked about, you even reject the man in bed if he does

not understand the case.... He is not happy with you.... When you are worried, things might not go well in the bed, so some men may go out to look for other women." —*woman, 18–25, low-to-middle income, Mbarara*

Both women and providers reported that it could be difficult for some to deny sex simply because their family planning method was not in stock. In extreme cases, a woman's attempt to abstain or to request that her partner use a condom led to conflict and domestic violence. Some women stopped family planning altogether when faced with a partner who was not supportive of abstinence or an alternative method. Two women from Mbarara described the experience of trying to abstain from sex when their method was out of stock:

"Some men don't understand it; they start to think that maybe it is because of something else that did not go well that you are denying him sex. So he says, 'Let me also go. When you are ready, I will come back.' And some men have gone permanently because of family planning. You, you are fearing to be made pregnant, and sometimes the man does not understand that he can make you pregnant that night, so he thinks you have refused or that it is because of the salt that he did not buy...and he simply disappears and yet you are trying to protect yourself so that you do not became pregnant."—*woman aged 26-45, low-to-middle income, Mbarara*

"A woman will go without a method [after encountering a stockout] and if she has sex with her husband, that could bring unwanted pregnancies. Even any attempt by a woman to deny the husband sex could lead to violence in the home.... They fight and some may even chase you out of their homes. For women who are on family planning secretly, it becomes hard because they may think that you have other men."—*woman, 18–25, low-to-middle income, Mbarara*

Women also reported facing domestic violence and abandonment when a family planning stockout resulted in an unwanted or unplanned pregnancy. Men rejected not only women, but also the children born out of unwanted pregnancies.

"Men will easily tell their women to stop delivering, but no man will be willing to stop having sex with the woman. She will come to the health facility and not find the methods to use and once the woman gets pregnant, he will blame her, saying he asked her to stop producing.... That child will not be cared for by the husband."—*provider, HC IV facility, Mbarara*

"Some of them even end up divorcing because some men are like, 'Me, I told you I don't want any more kids and now you are pregnant again!' So the man rejects the kid."—*provider, HC IV facility in Mbarara*

In addition, providers reported that adherence was often affected by women's heightened awareness of side effects when using a new method. The risk of discontinuation was reported to be higher if women were given methods other than their preferred choice, as one provider explained:

"It is quite challenging because it is hard to convince a woman to change the method, and when they do, they are always complaining of the small side effects of the new methods; other mothers decide to quit family planning hence [have] unplanned pregnancies."—*provider, HC IV facility, Mbarara*

Women who had to search for a method from multiple sources expressed concerns over the high cost of transport, ranging from USh 2,000 to 15,000 (US$0.60–5.00) round trip, and emphasized that travel expenses were one of the biggest challenges in obtaining methods. This was particularly true for women in rural areas, where the density of facilities was lower. Two women described this challenge:

"If you go to the diagnostic center and you don't get the service, you can change the place you go,...and if it is not there, you go check out elsewhere; but for people in the villages, it is very, very difficult for them to get those services. Because after all they have to spend more even on transport, some of them are not working and they have to depend on their husbands, who sometimes are not cooperative."—*woman, 26–45, high income, Mbarara*

"Transport is an issue because sometimes we have to move long distances on *boda boda* [motorcycle taxi] to go look for the method that you need. You may spend 10,000 shillings on transport alone. But much as it involves transport costs, there is nothing to do because getting that method is very necessary.... We have people in our communities who still find it hard moving to the health facilities due to transport cost and these end up producing many unplanned children."—*woman, 26–45, low-to-middle income, Mbarara*

If public facilities did not have the method, some women would go to private facilities to obtain their method, resulting in further out-of-pocket expenses. However, this option was not available to all women, particularly if they were unable to afford paying for supplies, which are free in public facilities.

In addition, women stated that they frequently had to spend long periods of time seeking contraception, ranging from 30 minutes to a full day. Public facilities were particularly overcrowded, which led to long wait times for family planning visits. A focus group participant stated:

"It could take like nine hours [at the clinic] because, being a referral hospital, it is always congested with patients, so you have to wait in long queues."—*woman, 18–25, low-to-middle income, Mbarara*

As a result of the long wait times, a few women reported that they would be denied services at the end of the day, which meant they had to come back another day to obtain contraceptives.

Women perceived that unmarried young women were more affected by stockouts than other women because unwanted pregnancies could lead to dropping out of school, early marriage and unsafe abortion. It was noted that the consequences affected young women more than

men because men were not forced to leave school as a result of unwanted or unplanned pregnancies.

Young women reported greater difficulty in traveling to a different clinic when faced with a stockout. They also faced confidentiality concerns about going to a new facility with providers they did not know when a stockout occurred at the facility from which they normally obtained contraceptives. Getting a method from an unfamiliar provider could be challenging. Some young women indicated that providers advised them to abstain from sex and were not willing to give them family planning methods. Other focus group participants stated that young women employed a variety of methods, from dressing to appear older to befriending clinic staff, to obtain family planning methods. As one explained, "It's not easy for them—those young ones fear to go to the hospital saying,...'I want family planning'... they fear the nurses will ask...'How old are you?' That at 17 years...[they will ask], 'At that age, what do you want with family planning?' "—*woman, 18–25, low-to-middle income, Kamuli*

In contrast, some women and providers conjectured that young women were more flexible when it came to method choice, which could lessen some of the impact of stockouts. They were perceived to be more willing to change to alternative short-term methods for pregnancy prevention and less concerned about side effects. According to one provider:

"For the adolescents, it may not affect them much because for them, they are after any method, even if they get the side effects, so they are a bit patient. But for married people, they will complain.... So when they get any side effects, the next time you will see them, they will be pregnant."—*provider, private for-profit clinic, Mbarara*

Consequences for Providers

All of the providers we spoke with perceived stockouts as a significant problem that had numerous negative consequences. They expressed strong empathy for the women they served and spoke of the emotional burden of not being able to help women when there was a method stockout. A health center provider recounted:

"You also become stressed when you don't have those methods the mothers want.... You put yourself in the shoes of that woman, she has come, she has now 10 kids and she has come for the type of family planning which is not available.... [The] last pregnancy she wasn't okay, she was becoming sick all the time, and she is saying, '*Musawo* [doctor], I want to rest.' And now she comes and you tell her, 'We don't have that method.' She goes back and she is miserable because she knows she is going again to become pregnant. You never know, she might not even survive... that pregnancy because she has delivered too many." —*provider, HC IV facility, Kamuli*

Some of the female providers further explained that, as women themselves, they understood on a personal level the consequences of having an unwanted pregnancy. Providers felt demoralized when they had stockouts of methods that women preferred and expressed how difficult it was for them to provide only information in those situations. A provider at an HC IV facility in Mbarara stated, "Sometimes I feel demoralized because these mothers keep coming and we push them away, not because I don't know what to do but because I don't have what to use."

It was common for providers to report that women who had unwanted pregnancies after stockout experiences blamed them. Similarly, some clients misinterpreted the stockout as a provider's refusal to serve and felt that providers were withholding methods. As a provider at an HC II facility in Kamuli explained, "If a client becomes pregnant, she can blame you the provider like, 'You didn't bring this drug, now I am pregnant.' They complain to me."

In addition, stockouts negatively affected the skill level of providers, as well as the success of the facility. Providers explained that they were unable to acquire or maintain skills to provide long-term methods as a result of lack of practice. A provider at a private for-profit facility in Mbarara said, "You cannot be okay after failing to provide a service and even the skills keep going low [decreasing] once the methods are always out of stock. For example, if I was to insert an IUD and every time it is out of stock, I would lose that skill of inserting the IUDs."

Furthermore, stockouts affected the performance of the entire facility. Women lost trust in facilities that had frequent or persistent stockouts. As a provider at an HC II facility in Mbarara explained, "I think some people may lose trust in the facility if they keep coming and find there is no drug." Because women frequently shared information on stockouts, the impact of one incident could quickly spread; this was particularly an issue when women misinterpreted a stockout of one method as a stockout of all methods. Two providers explained what can happen:

"This can affect the whole facility because if one client comes and you tell her that implants are out of stock, she will go out spreading rumors that the facility doesn't have family planning methods, that is what they normally say, yet there is only one method that is out of stock."—*provider, HC IV facility, Kamuli*

"It is like a wild fire, once you put in one end, it will reach the other end, once you tell one mother you don't have this, she will tell another mother and everyone will know what you don't have. And eventually your credibility as a facility goes down."—*provider, HC IV facility, Mbarara*

When women perceived that a facility was chronically out of stock of family planning methods, the overall number of women seeking services was reduced, which had a long-term impact on the facility. A provider at an HC IV facility in Mbarara described the effect of stockouts on facility performance: "It leads to poor service delivery and even at the end of the month [when the health facility reviews its records], there is a decline in the number of clients."

DISCUSSION

Contraceptive stockouts were very common, particularly for long-term methods and oral contraceptives. Women's coping mechanisms lessened some of the impact; however, women experienced many negative consequences, including stress, increased costs, domestic conflict, and unwanted or unplanned pregnancies. Providers also experienced emotional distress, demoralization, blame from clients, deterioration of skills and lower demand for their services as a result of stockouts, and felt helpless to address stockouts under the current systems. Despite the widespread prevalence and adverse impact of stockouts, interviews with the policymakers indicated that they lacked recognition of the scope of the problem.

Limitations

This study has several limitations. First, these data are not representative of all women, provider and policymaker perspectives in the Kamuli and Mbarara districts of Uganda. Second, the effects of nonparticipation bias are unknown. However, although these data may not represent all experiences, they provide new and useful information on the impact of contraceptive stockouts on women and providers.

Strategies for Addressing Stockouts

Providers attributed stockouts to underlying supply chain issues (insufficient supply forecasting, lack of provider input into the contents of supply kits at lower-level health facilities, multiple requisition forms at higher-level health facilities, lack of stable suppliers, insufficient feedback mechanisms for reporting missing or inadequate supplies, and lack of funds available for ordering supplies elsewhere), as well as a lack of priority placed on contraception at the national level. Addressing these causes will require a multifaceted approach. Immediate actions that can be taken to reduce stockouts include designating multiple contraceptive methods—not just the injectable—as tracer products for the contraceptive supply chain. In addition, such long-term methods such as the IUD should be included on the preset order form used by higher-level public facilities to request family planning supplies from National Medical Stores to avoid the additional paperwork and decrease access barriers.

Medium-term actions to reduce stockouts include improving the tracking of demand data. Clinic record-keeping that captures data on all women who seek methods, regardless of whether one is dispensed, is needed. To support this, family planning client cards, which were previously used to capture these data, could be reintroduced. In addition, providers should have regular input into the development of the preset order forms used by higher-level facilities, so that multiple requisition forms can be avoided. Providers at lower-level facilities should be engaged in determining the content of adequate supply kits, including family planning methods. As an alternative, a "pull system" could be used so that lower-level facilities can order the supplies they need directly.

Another option may be to adopt an "informed push distribution model" (IPM). The government of Senegal and the Senegal Urban Reproductive Health Initiative developed and piloted an IPM in 2012. IPMs use a professional logistician, who manages stock and deliveries so that health facilities do not need to place and pick up orders. The logistician collects data on product stocks at the time of delivery and reports the findings to the district medical chief; the logistician also restocks facilities monthly to maintain a minimum, preset level of stock. During the six-month pilot of the IPM, stockouts of contraceptive pills, injectables, implants and IUDs were completely eliminated at the 14 participating public health facilities. Following the pilot, the government expanded the model to all 140 public facilities in the Dakar region, and after six months, stockout rates throughout the region had dropped to less than 2%.[12]

Longer-term strategies are also needed to reduce stockouts and their impact, and to address contributing factors that are more deep-seated. This includes sustained prioritization of contraception at the national level. Raising community awareness of family planning and engaging with men is also necessary. An underlying issue in many of the negative consequences women experienced was a lack of partner receptiveness to the use of contraceptives. Furthermore, partner receptiveness affected women's ability to cope with stockouts. For example, it seemed easier for women to spend time away from their families to search for methods at multiple facilities or to abstain from sex when doing so did not require deception or avoidance. Because of the critical role that men play, solutions to lessen the impact of stockouts should include active engagement of men. Globally, group education, community outreach and clinic-based interventions have been found effective in getting men involved in family planning.[16] Similar programmatic efforts should be implemented and customized to local settings. In addition, women's high costs of transportation to obtain methods emphasize the need for promoting—and keeping stocked—more cost-effective, long-term methods. Related to this, new opportunities for training (e.g., outreach visits and rotation programs for providers to visit other facilities) need to be made available so that providers can maintain skills for placement of long-term methods.

The findings presented here highlight the numerous and far-reaching consequences that stockouts have on women and providers in Uganda, and emphasize the importance of both reducing stockout occurrence and mitigating their negative consequences.

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RESUMEN

Contexto: *Se sabe poco acerca del impacto que los desabastecimientos de anticonceptivos tienen sobre las mujeres y los proveedores de servicios de salud, o sobre cómo los encargados de formular políticas perciben y manejan esos desabastecimientos.*

Métodos: *Entre mayo y junio de 2015, se condujo en dos distritos de Uganda un estudio cualitativo sobre experiencias de desabastecimientos de anticonceptivos. El estudio contó con tres componentes para la recolección de datos: ocho grupos focales con 50 mujeres, 24 entrevistas individuales en profundidad con proveedores de servicios de planificación familiar y gerentes de instituciones de salud, y 11 entrevistas en profundidad con encargados de formular políticas y tomadores de decisiones a nivel distrital. El análisis de los datos se basó en el enfoque de análisis de contenidos.*

Resultados: *Los desabastecimientos de anticonceptivos fueron comunes, especialmente en el caso de métodos de larga duración y anticonceptivos orales. Las consecuencias para las mujeres incluyeron estrés, costos más altos, conflictos domésticos y embarazos no deseados o no planeados. Los proveedores reportaron consternación emocional, reproches por parte de usuarios, deterioro de habilidades y menor demanda de sus servicios como resultado de los desabastecimientos; también sintieron incapacidad para hacer frente a los desabastecimientos bajo los actuales sistemas de suministro. A pesar de la prevalencia generalizada y el impacto adverso de los desabastecimientos, los encargados de formular políticas reportaron no estar al tanto del alcance del problema.*

Conclusiones: *Los hallazgos sugieren que hay una necesidad muy importante de aumentar la conciencia acerca de los desabastecimientos, reducir su ocurrencia y mitigar sus consecuencias negativas. Los esfuerzos para eliminar los desabastecimientos deben incluir el abordaje de problemas relacionados con la cadena de suministros. Aumentar la conciencia de la comunidad e involucrar a los hombres en temas de planificación familiar pueden ser formas de lidiar con las consecuencias de los desabastecimientos.*

RÉSUMÉ

Contexte: *L'impact des ruptures de stocks de contraceptifs sur les femmes et les prestataires de soins de santé n'est guère documenté, pas plus que la manière dont les décideurs politiques perçoivent et traitent la situation.*

Méthodes: *En mai-juillet 2015, une étude qualitative de l'expérience de ruptures de stocks de contraceptifs a été menée dans deux districts d'Ouganda. Trois composants de collecte de données ont été considérés: huit groupes de discussion avec 50 femmes, 24 entretiens individuels en profondeur avec des prestataires de services de planification familiale et responsables de structure et 11 entretiens en profondeur avec des responsables politiques et décideurs au niveau du district. L'analyse des données a procédé selon l'approche de l'analyse de contenu.*

Résultats: *Les ruptures de stocks de contraceptifs se sont révélées courantes, en particulier pour les méthodes longue durées et la contraception orale. Pour les femmes, les conséquences en sont le stress, les coûts accrus, le conflit conjugal et les grossesses non désirées ou non planifiées. Les prestataires font état de détresse émotionnelle, reproches des clientes, détérioration des compétences et réduction de la demande de leurs services; ils estiment aussi ne pas pouvoir résoudre la situation dans le cadre des systèmes d'approvisionnement actuels. Malgré la prévalence généralisée et l'impact négatif des ruptures de stocks, les responsables politiques ignorent l'ampleur du problème.*

Conclusions: *Les résultats laissent entendre un besoin critique de sensibilisation à la réalité des ruptures de stocks, de réduction de leur incidence et d'atténuation de leurs conséquences négatives. Les efforts d'élimination des ruptures de stocks doivent prévoir la résolution des problèmes de la chaîne*

d'approvisionnement. La sensibilisation communautaire et l'engagement des hommes sur les questions de la planification familiale pourraient aider à mieux gérer les conséquences des ruptures de stocks.

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