Community Perspectives on Contraception in the Context of Zika Virus in American Samoa and the Commonwealth of the Northern Mariana Islands

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Abstract

The prevention of unintended pregnancy was identified as a primary prevention strategy to reduce Zika-related adverse birth outcomes during the 2016-2017 Zika virus outbreak. The Centers for Disease Control and Prevention in partnership with local health agencies conducted formative research to guide the development of culturally appropriate messages and materials to increase awareness of the prevention of unintended pregnancy as a strategy to decrease Zika-related adverse outcomes in American Samoa and the Commonwealth of the Northern Mariana Islands (CNMI). Nine focus groups (N=71) were conducted with women and men aged 18-44 years living in American Samoa and CNMI. Semi-structured interview guides were used to explore participants' knowledge and perceptions of Zika, family planning, and contraception; barriers and facilitators to access contraception and use; and information sources and contraception decision-making. Trained staff from local organizations co-moderated each focus group. Thematic analysis was conducted with NVivo 10. Participants had mixed knowledge about Zika virus and its relation to pregnancy and birth defects. Women and men had varied knowledge of the full range of contraceptive methods available in their jurisdiction and identified barriers to contraceptive access. Social factors including stigma, gender roles, and religion often deterred participants from accessing contraceptive services. Participants highlighted the need for culturally appropriate and clear messaging about contraceptive methods. Results demonstrate the feasibility of conducting formative research as an effective strategy for understanding community perspectives on unintended pregnancy prevention in the context of the Zika virus outbreak to develop health communication materials.

Keywords

Zika, contraception, emergency preparedness, USAPI, American Samoa, Commonwealth of the Northern Mariana Islands

Abbreviations and Acronyms

CDC = Centers for Disease Control and Prevention
CNMI = Commonwealth of the Northern Mariana Islands
IUD = Intrauterine Device
STD = Sexually Transmitted Disease
USAPI = United States-Affiliated Pacific Islands

Introduction

Zika virus infection during pregnancy can cause severe brain and eye abnormalities.[1] While primary transmission occurs through the bite of Aedes species mosquitoes, Zika virus can also be transmitted through sexual transmission, and from mother to baby during pregnancy or at birth.[2] The Centers for Disease Control and Prevention (CDC) identified the prevention of unintended pregnancy as a primary prevention strategy to reduce Zika-related adverse birth outcomes during the 2016-2017 Zika virus outbreak.[3]

The United States-Affiliated Pacific Islands (USAPI) includes 3 US territories (American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), and Guam) and 3 independent countries in free association with the US (the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau). In January 2016, American Samoa reported the first laboratory-confirmed cases of Zika virus infection in USAPI, and by May 2017 public health officials reported mosquito-borne transmission of Zika virus across the Pacific Islands.[4] In December 2017, across all US territories, including Puerto Rico, US Virgin Islands, and USAPI, 4,690 pregnant women with laboratory evidence of Zika virus infection were reported,[4,5] making contraceptive access a priority among women of reproductive potential (sexually active, fertile, not pregnant, and not using contraception).

As part of its Zika emergency response, CDC conducted a rapid assessment of reproductive health data and discussed access to contraception with family planning providers in the USAPI.[6] In 2015, data from the United Nations on contraception prevalence reported about 34% of married women 15-49 years of age in CNMI used a modern method of contraception, including sterilization, an intrauterine device (IUD), an implant, injectable, oral contraceptive pills, male and female condoms, vaginal barrier methods, lactational amenorrhea method, and emergency contraception, compared to about 70% in the US.[6,7] Data were unavailable for American Samoa. Data on unmet need for family planning, defined as the number of women of reproductive age who would like to prevent or delay pregnancy, but were not using any contraceptive method was about 22% among married women 15-49 years of age in CNMI compared to about 7% in the US.[6,7] Similar data were not available for American Samoa. According to the 2015 National Title X Family Planning Annual Report, Title X funds supported family planning service delivery in all USAPI jurisdictions.[8] Among Title X female family planning users at risk for unintended pregnancy, defined as women of reproductive age who are

sexually active with a male partner and not currently pregnant or seeking pregnancy, the reported rates of use of the most effective methods (ie, sterilization, implants, and IUDs) were 15% in American Samoa and 21% in CNMI; the reported rates for moderately effective methods (ie, injectables, vaginal rings, patches, pills, and diaphragms) were 85% in American Samoa and 75% in CNMI; the reported rates for less effective methods (ie, female and male condoms, sponges, withdrawal, lactational amenorrhea, and spermicides) were 0% in American Samoa and 2% in CNMI.[8] Further, informational discussions with key informants (ie, family planning nurses, medical doctors, family planning managers, and program coordinators for Title X and other family planning programs or contraceptive service provision sites) from each USAPI jurisdiction reported on contraception methods available to women within their jurisdiction. CNMI and American Samoa were the only jurisdictions to report having the full range of contraceptive methods available.[6] Key informants also identified barriers and facilitators to implement strategies to increase access contraceptive services in the context of Zika preparedness and response.[6] The majority of key informants reported the need to remove logistic and administrative barriers for contraceptive services and supplies; train health care providers on current insertion and removal techniques for IUDs and implants using evidence-based guidance; and assess client satisfaction with service provision and increase consumer awareness.[6]

Following the assessment, the CDC convened key leadership, family planning providers, and clinical care organizations that provide contraception from each USAPI jurisdiction for a 3-day training session to educate and discuss the needs of women of reproductive potential and facilitators for increasing access to contraception during the Zika outbreak in USAPI.[6] While these key informants emphasized the need for patient education, perspectives among women in the USAPI regarding the sociocultural norms surrounding pregnancy, contraceptive use, and contraceptive decision-making and barriers to accessing contraception were unknown.[6] Following the training, American Samoa and CNMI requested technical assistance from the CDC to develop health messaging about contraception in the context of Zika. In response, the CDC, in partnership with local health agencies and community-based organizations, conducted formative research to guide the development of culturally appropriate messages and materials to increase awareness of the prevention of unintended pregnancy as a primary strategy to decrease Zika virus infection-related adverse outcomes in American Samoa and CNMI.

This study reports findings from focus groups centered around emerged themes of participants' knowledge and perceptions of Zika, family planning, and contraception; barriers and facilitators to access contraception and use; and information sources and contraception decision-making.

Methods

Data Collection

In January 2018, 9 focus groups were conducted during the Zika virus outbreak with women and men of reproductive age (aged 18 to 44 years) in American Samoa and CNMI to understand knowledge, attitudes, and beliefs about contraception within the context of Zika. The inclusion criteria included participants who resided in American Samoa or CNMI at the time of enrollment and who reported being heterosexual and sexually active within the past 3 months. To assess attitudes for whom contraception would be applicable, women who were pregnant or planning to conceive within the next 12 months were excluded.

In American Samoa, 5 focus groups were conducted: 3 with women and 2 with men. In CNMI, 4 focus groups were conducted with women; there were no focus groups with men in CNMI due to challenges in recruiting men to participate. The number of participants in each group ranged from 5 to 14, resulting in 71 participants. This activity was reviewed by CDC and was conducted consistent with applicable federal law and CDC policy and determined to be public health practice and therefore did not require additional review by CDC Institutional Review Board.

The local departments of health, family planning program, and community-based organizations that served women or promoted health in American Samoa or CNMI recruited participants. These local organizations used local networks, community venues (eg, laundromats), and social media (eg, Facebook) to identify participants. Interested participants completed an eligibility screening form.

CDC developed separate guides to facilitate discussions with women and men, informed by formative research conducted in Puerto Rico and the US Virgin Islands during the Zika virus outbreak.[9,10] The guides included open-ended questions and probes to gather information on contraceptive access, method choice, and use, and perceptions about Zika virus transmission and pregnancy; and to inform the development of a comprehensive health communication strategy within the context of the Zika virus outbreak (**Table 1**). The guides were reviewed by the local staff to ensure the questions were culturally appropriate. CDC trained local staff on focus group facilitation, confidentiality, informed consent, and the data collection process. The trained staff co-moderated each focus group with CDC staff. Participant informed consent was obtained at the start of each session. The informed consent process included information on research procedure, purpose, risks, benefits, and alternatives; comprehension to ensure participants had thorough understanding of research, confidentiality, and recording for note taking purposes; and awareness that participation was voluntary. Focus group discussions were audio-recorded and transcribed. Participants received $25 compensation for their time and transportation costs.

Table 1. Selection of Questions from the Focus Group Guide for Formative Research Conducted to Understand Perspectives Regarding Contraception in the Context of the Zika Virus Outbreak in American Samoa and the Commonwealth of the Northern Mariana Islands
Pregnancy
· In what ways do women in your community talk about planning a family (reproductive life planning)?
· Do people generally discuss plans to have kids/delay having kids?
· Who do people generally discuss this with (their partner/spouse, family member, friend)?
· Do you think people are looking to delay/prevent pregnancy in the context of Zika?
· How does a woman prevent pregnancy in (American Samoa/ the Commonwealth of the Northern Mariana Islands (CNMI) if she wants to?
Contraception/Birth Control
· What are the types of birth control methods you are familiar with?
· How does a woman prevent pregnancy in (American Samoa/CNMI) if she wants to?
· Where do women in your community look for information about birth control?
· What are some of the things that make it *hard* for women in your community to get birth control if they wanted to prevent pregnancy? (*Probes*: religion, fear of side effects, limited access to health care, limited access to contraception, cost, discomfort talking with partner)
· What are some of the things that make it *easy* for women in your community to get birth control if they wanted to prevent pregnancy?
· When discussing birth control, who do you think should be involved in the decision-making process?
Zika Virus
· What have you heard about the Zika virus?
· Where are you getting information about Zika?
· What if anything are you doing to protect yourself from Zika?
Zika Virus and Pregnancy
· How has the Zika virus affected your thinking about pregnancy or pregnancy planning?
· What could motivate you to consider using birth control if you were interested in delaying or avoiding pregnancy, especially now with Zika being an issue?
Information-Seeking/Message Dissemination
· What types of information do you think women in (American Samoa/CNMI) would you like to receive about different types of birth control methods?
· Who do you think would be a good person (or people) to inform you and your friends about birth control options to delay or avoid a pregnancy? (*Probes*: a physician, celebrity, religious or spiritual leader, someone like you)
· Are there any organizations that are trusted as a reliable sources of information on birth control?
· What would be the best way to provide this information? (*Probes*: videos, educational pamphlets, community/public meetings, Internet, radio)

Data Analysis

All focus groups were transcribed verbatim and dissected with a thematic analysis framework in NVivo 10 (QSR International, LLC, Burlington, MA). A codebook was developed using a hybrid approach of a priori and inductive codes from the data. Two analysts independently coded each transcript using the codebook, met for consensus (percent agreement 78.27% to 99.9%; Cohen's Kappa scores 0.53 to 0.99), and discussed differences in coding to refine the codebook. This process of independent coding and consensus to gauge inter-rater reliability and refine codebook was repeated for all focus groups.

While coding the focus group data, the analysts developed analytical annotations for each coded segment across all 9 transcripts. Queries were run for American Samoa and CNMI separately, captured all codes in the codebook, and were organized into 4 domains: (1) Knowledge and perceptions of Zika virus; (2) Knowledge and perceptions of family planning and contraception; (3) Barriers and facilitators to access contraception and use; and (4) Information sources and contraception decision-making. The 4 domains were consistent across American Samoa and CNMI; however, the themes varied based on the data analyzed from these 2 different geographic areas.

Results

Knowledge and Perceptions of Zika Virus

Female participants from American Samoa had mixed awareness of Zika virus and its transmission (**Table 2**). While few reported they understood its relation to pregnancy and birth defects, overall knowledge varied. Most reported that they had learned about prevention strategies from a health communication campaign, yet they did not have strong concerns. Those who reported concerns about Zika had personal connections to individuals affected by the virus. Participants reported health center outreach efforts positively changed prevention behaviors and increased awareness and concern of adverse effects of infection. When discussing Zika and its relation to family planning, few reported the virus motivated contraceptive use.

In American Samoa, male participants were aware of Zika virus, but most were unclear about transmission and relation to pregnancy (**Table 2**). Men reported that Zika did not affect their view on pregnancy but were interested in learning more. Men reported the use of prevention strategies (eg, eliminate mosquitos in the environment, prevent mosquito bites, and pregnancy prevention) by those with a personal connection to the disease or awareness from the health communication campaign.

CNMI participants (female only) also had a mixed understanding of Zika; many did not know about the virus, and others understood it as a mosquito-borne disease. Few understood the relation of Zika virus to birth defects or that it could be sexually transmitted (**Table 2**). Participants reported that learning about Zika made them concerned about mother-baby transmission, increased caution in getting pregnant, and increased desire for more information.

Knowledge and Perceptions of Family Planning and Contraception

Female participants from American Samoa were aware of condoms, pills, injectables, and the patch (**Table 2**). Most had a neutral view about these methods, but those who knew about potential side effects voiced concern. Participants had mixed knowledge about IUDs and implants and found the insertion requirements deterring. Women were aware of methods used by friends and family and noted concerns of side effects that others had experienced. Women were also aware of where to access contraceptive services.

Male participants from American Samoa reported condoms as a male form of birth control but preferred not to use them because concerns of comfort or breakage (**Table 2**). Although Zika was not seen as a sexually transmitted disease (STD), it was reported that STD prevention efforts more likely encouraged men to use condoms than Zika prevention.

In CNMI, female participants reported knowledge about condoms, pills, injectables, patches, IUDs, and implants (**Table 2**). Women reported that condoms and the pill were favored, but the pill was sometimes avoided because of the necessity to take it daily. The IUD and implant were well-received by some women; however, others avoided these methods because the required insertion and potential side effects that they heard about from friends and family (eg, painful procedure and excessive bleeding). Women also reported knowledge about where to get contraception.

Barriers and Facilitators to Access Contraception and Use

Female participants in American Samoa reported barriers to contraceptive access (**Table 2**). Barriers included the perception of promiscuity and stigma associated with use of contraception.

Table 2. Focus Group Participant Perceptions of Contraception in the Context of the Zika Virus Outbreak, American Samoa and the Commonwealth of the Northern Mariana Islands, January 2018

Focus Group Domain	American Samoa*	Commonwealth of the Northern Mariana Islands
Knowledge and Perceptions of Zika Virus	**Female group:** "I didn't know that you can spread Zika through sex or pregnant women to their baby." "When I heard that Zika was actually present in Samoa and could affect me, I took steps to protect my family like use screens, nets, and sprays. **Male group:** "I was not concerned about Zika, but now that I know what it can do to a baby, I am concerned about my wife getting pregnant." "Zika doesn't affect how I think about pregnancy because it is the women's decision or responsibility to protect herself."	**Female only group:** "This is my first-time hearing of the Zika. I don't have a lot of information." "I have heard Zika virus can be transferred from the mom to the unborn baby and cause birth defects." "I am concerned about pregnant women. For the sake of the baby because it could cause a birth defect." "Honestly, I don't feel concerned. Maybe I should be, but I just don't know what it is. I just see that big poster in front of the hospital with the mosquito, but I don't understand."
Knowledge and Perceptions of Family Planning and Contraception	**Female group:** "I know about the pill, Depo, patch, and condoms." "I had an IUD for five years. It was good because it lasts really long, and it is safe. I had the shot before, but I stopped because I didn't have my period." "I have never heard of the implant. How does it get into your arm?" **Male group:** "The pill is for women. The condom is for men." "The other methods seem better than the IUD and implant. I have concerns about the methods that are inserted in her body." "I feel comfortable with condoms as a way to prevent STD and pregnancy."	**Female only group:** "I've heard about all the methods--the IUD, ring, Depo, pills, patch, condoms, implant, and abstinence." "I think the pill and condoms are preferred because they are easier. With pills, you're not putting in anything anywhere else but your mouth." "I heard the IUD lasts like 10 years, so I decided to get it." "I heard on the implant you do not menstruate. From my experience, every time you don't get your period and your sexually active, you're scared that your pregnant." "A lot of times, condoms, you can get them for free. Like from public health." "If women don't want to get pregnancy, most know they can go to family planning clinics, hospital, and pharmacies for birth control."

Table 2. Focus Group Participant Perceptions of Contraception in the Context of the Zika Virus Outbreak, American Samoa and the Commonwealth of the Northern Mariana Islands, January 2018 (Continued)

Focus Group Domain	American Samoa*	Commonwealth of the Northern Mariana Islands
Barriers and Facilitators to Access Contraception and Use	**Female group:** **Barriers:** "Women may not go to the family planning clinic because they are embarrassed, shy, not wanting people to know." "I feel like I am sinning. My pastor would not be supportive of using of birth control. You are supposed to accept a child." "In Samoan culture you are not supposed to have sex before marriage and once you are married you are not supposed to use birth control." "Men want women to have children year after year. When I was offered birth control and discussed with my husband, he disagreed so I don't use." "To get birth control requires transportation and babysitter." **Facilitators:** "There are special hours at the family planning clinic for teens." "The more information women have the better they will be able to choose a method and talk with their partner." **Male group:** "There is an expectation for women to not have sex until married or until they are older and wiser, but this does not reflect reality." "I have had friends and girlfriends try to get birth control. There is a cultural shame. You don't want people to know that you do that type of stuff." "Culturally the more children, the more blessings. Spiritually you're not supposed to start making babies until marriage."	**Female only group:** **Barriers:** "If you are single and getting birth control people will think you have several partners." "So cost is a big factor." "Lack of information is a barrier." "I don't have transportation to go to the clinic." "In our culture we do not discuss family planning. It's too personal." "When a man and woman get married, in our culture that the role of the woman is to have their children." "There is pressure to be a mother, including motherhood over school or career." **Facilitators:** "The family planning clinics, hospitals, and pharmacies are all options for women wanting birth control." "You can get condoms for free at public health." "It's important for women to be aware of the different types of birth control, pros and cons and side effects." "There has been a generational shift towards less children. My mom's generation there were seven or eight of them. And then our generation average three." "I think in practice, religion has minimal effect on birth control use. It's not a big factor for people I know."
Information Sources and Contraception Decision-Making	**Female group:** 'In Samoan culture, you don't talk about sex. If you were to talk about it, it would be with your mom or your sisters and after you got married." "Your mom is always going to be the first one you go to if you are afraid to talk to your husband or partner." "I talk about birth control with my friends." "The only person I talk to is my husband. To plan how many kids" "I am not married but in a relationship. Family planning does not come up." "In school, we learned abstinence only. Birth control wasn't discussed." "If I need information on birth control, I feel I could trust my physician or nurse at the family planning clinic. I always prefer a female doctor" "Radio, TV, billboards, pamphlets, posters at hospital, market, and community board are good places to share information." **Male group:** "When you start talking about plans and goals for the future, it will some way lead to talking about when to have kids." "Most couples do not talk about family planning. That's why most pregnancies are accidental." "I want to know how safe a method is, how it works, and the cost."	**Female only group:** "I talk to my mom, sister, cousins, and female." "Culture plays a role in birth control decision-making. Before, 15 kids at one time and now there's a generational shift towards less kids. The ladies in my family actually said they really struggled, and they don't want us to struggle. Everything is so expensive you're not going to be able to afford to have as many kids as me. There is support for family planning." "I talk to my partner about birth control. I made it easy for him and explain the pros and cons of each option. He is supportive." "Women can get information about birth control from the hospital, public health, and private clinics." "Outreach may be a good source for sharing birth control information, at the places where women are like the beach, exercise at pathway, or Zumba." "Teachers and school counselors would be good sources of information." "Fliers, posters, health fairs, radio, TV, and any place women go are good places to share birth control information." "Colorful posters with women and families that represent CNMI could be useful to catch women's attention." "Posters that focus on women or partners supporting women using birth control and getting healthy to prepare for a child."

*Male focus groups were only conducted in American Samoa and not in CNMI

Participants reported that in Samoan culture, women were not supposed to have sex before marriage, and, once they were married, they were not supposed to use contraception. Others reported that use of contraception would not be supported by their religious institutions because women were not supposed to prevent pregnancy. Women reported lack of partner support to use contraception because men want women to have children. Women also reported barriers related to distance, transportation, and childcare to access family planning clinics.

Male participants in American Samoa reported barriers including a cultural expectation for women to not have sex until marriage or not use contraception and noted this did not reflect reality. They reported shame women experience accessing contraception and the belief that large families are blessings. Participants reported women also want large families.

In terms of facilitators, most women reported the more they learned about each method, the more they felt encouraged to

visit family planning clinics. Women from American Samoa reported that knowledge about contraception empowered them to plan their future and have conversations with their partners. Participants also reported that confidential and teen friendly hours at family planning clinics were important, but awareness about these services in the community was needed.

Female participants in CNMI reported barriers to contraception access and use, including cost and insurance status (**Table 2**). Women reported lack of information, required parental consent for teens, and transportation as barriers. Participants reported that family planning was not typically discussed in their culture and that the role of the woman was to bear children and prioritize motherhood over school and career. Women also reported stigma and judgment towards unmarried women seeking contraception.

In terms of facilitators, women in CNMI were aware that contraception services were available for little or no cost at the hospital or public health clinics. Women reported that being informed about different types of contraception options, benefits, and side-effects were important. Women also reported a generational shift towards less children and more family planning and that in practice religion had minimal effect on contraception use.

Information Sources and Contraception Decision-Making

Women in American Samoa reported they typically refrained from talking about contraception or pregnancy; however, if they did, it would be with their mother or sisters (**Table 2**). Women also reported talking with close friends but noted privacy concerns when discussing with acquaintances. Some women reported they talk to their husbands; however, women not married often did not discuss family planning with partner.

Women in American Samoa reported the need for more information about the benefits of planning pregnancy, different contraceptive methods, costs, side effects, and effectiveness (**Table 2**). Information about contraception was often provided through a physician or nurse. Physicians were mentioned as trustworthy, but many women preferred female medical professionals. Women suggested integration of family planning education and services into other medical visits (eg, gestational diabetes and postpartum care). Outreach and education were reported as a potential channel to reach youth, discuss the high teen birth rates, and prevention efforts. Women also reported radio, TV, billboards, pamphlets, posters, market, and community boards as potential sources to disseminate information about family planning services.

For American Samoa men, most reported they do not talk about family planning with their partners and that most pregnancies are unintended (**Table 2**). Men reported they did not have enough information about contraception to talk with their partner. Men also reported they wanted to know how safe a method was, how it worked, and the cost. Other men reported that talking about plans and goals for the future often lead to discussions about family planning. Men reported that pamphlets, posters, and TV were sources to get contraception information.

In CNMI, women reported talking to their mothers, sisters, cousins, and female friends about pregnancy and contraception (**Table 2**). Women reported a generational shift towards less children and that older women supported contraception because of their financial struggles with large families. Some women reported talking with their partners and felt that listing pros and cons of family planning was helpful to partners understanding. Often when partners were included in the conversation, they were supportive.

Women in CNMI reported public health as the main source of contraception information, followed by hospital, clinics, and pharmacy (**Table 2**). Women reported the hospital provides contraception information after birth and that providing this information before pregnancy would be helpful. Outreach efforts targeting places where women congregate were reported as a potential source to share contraception information. Women reported that school was the primary source of sex education and that teachers and school counselors were good sources of confidential information. Women reported a desire for accurate, science-based information. Information about family planning was obtained from pamphlets, posters, radio, TV, Google, and Facebook messenger. Key channels for disseminating information included WhatsApp and health fairs.

Women in CNMI reported the need for messaging for men to support women using contraception (**Table 2**). Women reported the need for culturally appropriate, up-to-date, and clear messaging. Women also wanted materials that included information on the different contraceptive methods, side effects, and cost to help them make their decision and recommended that messaging be colorful, represent CNMI families, and focus on partners getting healthy together.

Discussion

Our findings highlight that focus group participants in American Samoa and CNMI had mixed levels of knowledge about the association of pregnancy and birth defect outcomes with Zika virus infection and the use of contraception as a primary prevention strategy during the 2016-2017 Zika virus outbreak. Previous research also conducted during the 2016-2017 Zika virus outbreak reported limited awareness of Zika within local communities in Puerto Rico and the US Virgin Islands due to the asymptomatic nature of the majority of cases[9] and limited personal knowledge of someone with the Zika virus infection or infants born with adverse outcomes.[9,10] Together, these findings underscore the need for communications efforts to increase awareness of local Zika virus risks and of prevention of unintended pregnancy as a primary strategy to decrease Zika virus infection-related adverse outcomes.

Previous research conducted in the Pacific found that women of reproductive age had lower awareness of contraceptive methods and services even though they were easily available.[11-14] This research adds to the existing literature on perspectives among women of reproductive age in American Samoa and CNMI in regards to the sociocultural norms surrounding pregnancy, contraceptive use, and contraceptive decision-making and barriers to access contraception, including that gaps in knowledge and awareness of contraceptive methods, stigma of seeking contraceptive services, confidentiality concerns, and the perception of the role of motherhood often prevented women in American Samoa and CNMI from accessing contraceptive services. However, the complexity surrounding perceptions of sociocultural norms, contraceptive use, and contraceptive decision-making warrants further research to understand and address the needs of women. Efforts to provide comprehensive information about all contraceptive methods, including side effects and options for discontinuation or removal are important to improve contraceptive options for women and support method choice.[15,16]

Previous research reported that men in the Pacific often had specific views on family planning based on their knowledge of why women use contraception and that while some men did have reservations, there was a positive response to discuss family planning and engage in related decision-making.[17] Our male focus group findings add to the existing body of knowledge that men in American Samoa were often not engaged in discussions about family planning. However, men wanted information on contraception safety, efficacy, and cost and to discuss with their partners future goals, including when to have children. Contraceptive decision-making that involves the male partner can support increased use of effective contraceptive methods, including the use of dual protection (condoms plus a non-barrier method).[18-21] Efforts to educate men about the health benefits of family planning, address men's concerns and misconceptions, and discuss their role in decision making, can facilitate communication with their partner and support a woman's choice of a method that meets her needs.

This study further highlights barriers to contraceptive access, including limited awareness, cost, confidentiality concerns, distance, transportation, and childcare. Providers trained in evidence-based guidance for contraceptive services can offer high-quality contraceptive services.[22-24] Previous research reported that providing patient-centered contraceptive counseling through a shared decision-making approach can facilitate women finding a contraceptive method aligned with their needs and preferences.[25] Additionally, providing same-day initiation without unnecessary medical tests and exams can reduce women being lost to follow-up and placed at risk of an unintended pregnancy.[22,23,26] To address cost concerns, patient information about cost and options for no or low-cost programs (eg, Title X, federally qualified health centers) for eligible participants can be provided. Further, upfront costs of IUDs and implants may be a barrier for some providers. Therefore, the risk for absorbing the costs of unused devices may impede same-day initiation.[27] The use of reimbursement systems and purchasing strategies can reduce costs for providers and patients.[27-29] To address confidentiality concerns, provider and staff training and policy and procedural approaches to improve the assurance of confidentiality in clinic settings may be considered.[24] Finally, to address barriers to seeking contraceptive services (eg, distance, transportation, and childcare), the use of mobile outreach services and community health workers, and integration with other important maternal and child health initiatives may improve accessibility of services.

The findings in this report are subject to several limitations. First, given the urgency of the emergency response, a purposive sampling approach to recruit participants was used. Given the wide age range in the focus groups, participants may have had different perspectives, opinions, and experiences on these topics. Thus, these findings are not generalizable to all individuals of reproductive age in American Samoa and CNMI. Second, only adult participants were recruited; therefore, the needs of women younger than 18 years who may experience additional challenges were not assessed. Third, with only 4 focus groups in American Samoa and 5 in CNMI, thematic saturation may have not been achieved. Consequently, the study's ability to gather enough data to inform the tailoring of messages for certain subgroups was limited. Nevertheless, this assessment provided useful data to inform the development of a communication strategy as a part of an emergency response.

Conclusion

The use of formative research was an effective strategy to understand community perspectives on contraceptive access and provided valuable information for rapid development of culturally appropriate health communication messages and materials in the context of Zika. Similar assessments can be used to understand community perspectives in other emergency response efforts that pose a risk to pregnant women and their infants, or in nonemergency settings in which the goal is to increase access to contraception or reduce unintended pregnancy.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Conflict of Interest

None of the authors identify a conflict of interest.

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