



Review Article

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Demand for Information on Family Planning among Married Women and Men in Northern Nigeria



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Abstract

The contraceptive use is extremely limited in northern Nigeria. This study aims to evaluate the demand for information on family planning and to examine the change in knowledge and preference before and after the provision of new information. We conducted an analytical cross-sectional study among married women and married men in four settlements within the catchment areas of two health clinics. We invited respondents to an educational session (Health Talk) to provide information on family planning. A total of 95 married women and 96 married men participated in the study. The demand for information on family planning was very high; Over 80% of both married women and married men participated in Health Talk and 22.5% of female participants took up some modern family planning methods at Health Talk. After Health Talk, the knowledge of family planning methods increases among both women and men, and the preference for high fertility decreases.

Keywords: Demand; Information; Family planning; Nigeria

Introduction

In 2011, the Nigerian government committed to providing free family planning supplies in public health facilities as part of their maternal and child health and primary health care system [1]. Despite these efforts, only 16% percent of sexually active women use any method of contraception and unmet need for contraception is 12% [2]. Contraception use and unmet need also varies significantly by region with northeastern Nigeria having the lowest rates of contraception use. Only 4 percent of women in Adamawa state were currently using a contraceptive method and the unmet need for family planning is 21.8 percent. Family planning is a cost effective method to reduce mistimed and unwanted pregnancies and significantly reduce induced abortions rates, maternal morbidity and mortality, and infant mortality [3,4].

In the literature, various reasons are listed for the low take-up of family planning methods such as desire for more children, low knowledge level of methods, lack of social norm, lack of inter-spousal communication, husband's disapproval, fear of side effects, availability and accessibility of the family planning methods [5-7]. In particular, low or wrong knowledge of family planning methods have been shown to be correlated with low contraceptive prevalence rates use and high unmet need [8]. However, it is un-

known whether women and men actually desire family planning information needed to make family planning choices.

This paper focuses on demand-side barriers to family planning methods use. In particular, the purpose of the study is three-folds; 1) to understand the baseline preference and understanding level of fertility and family planning among both married women and married men, 2) to evaluate the demand for information on family planning by inviting both women and men to the information session (Health Talk), and 3) to evaluate the change in preference and understanding of fertility preference and family planning after Health Talk. Additionally, we evaluate whether there is demand for family planning method once we guarantee the availability of family planning methods.

No study has measured the demand for family planning information in any population. High demand for family planning knowledge could also be used to evaluate the need for family planning intervention. Communities that show high desire for family planning information and have high unmet are potential sites for interventions, with high chances of being accepted and successful at improving family planning use.

Methods

Study Setting and Participant Selection

The study was conducted in Jada local government area of Adamawa state, where contraception use is extremely limited. According to DHS (2013), the percent of married women aged 15 to 49 using any modern contraceptive method in Adamawa state is merely 3.5 percent and the total unmet need for family planning is 21.8 percent. Individuals were eligible to participate in this study if they were married women between 15 and 45 years, or married men whose wives were between 15 and 45 years, and resided in one of the four settlements within the catchment areas of two health clinics: Jada Primary Health Clinic I and Kojoli Primary Health Clinic. These settlements were selected to provide a range of contexts around family planning. Each house within a settlement was visited to identify and interview eligible respondents until each interviewer reached the target number of respondents; 3 women and 3 men per day. We set the target number per day to ensure the quality of survey.

Study Design and Procedure

This study was conducted in October 2018 in three stages: baseline survey, Health Talk, and follow-up survey. Data were gathered by six locally based trained health workers. The lead author of the study supervised the data collection to ensure quality control. If a man had more than one wife, any questions asked about their wives during baseline and follow-up survey were about his youngest wife to minimize the confusion. Interviews were held in a private area and respondents' spouses were not around during interview.

Baseline survey, cross-sectional and quantitative, was conducted among married women aged 15 to 45 and married men whose wife was aged 15 to 45 years old in Jada local government area of Adamawa state in the northeastern region of Nigeria. We sampled married women and married men separately; some respondents' spouses might have been in the study as well but this case does not happen all the time. The interview instruments were designed to elicit the following information: socio-demographic characteristics, fertility preference, knowledge and preference of family planning as well as its use. The baseline survey took place in the morning.

After the baseline survey, all respondents interviewed at the baseline survey were invited to attend Health Talk voluntary at one of two health clinics we assigned them, depending on their residential location. Respondents of baseline survey were informed that information about family planning would be provided at the Health Talk. For women residing in a settlement, the Health Talk took place several hours after the baseline survey on the same day at 1pm. The Health Talk for men took place on the day after the baseline survey at 8am. During the Health Talk, a nurse discussed the benefits of birth spacing, introduced of family planning methods, and explained the advantages and disadvantages of each

method. At the end of Health Talk, attendees were encouraged to ask questions on family planning methods. Female attendees were offered an opportunity to receive family planning method of their choice on the same day if they wished. Health Talk continued for about one hour.

After Health Talk, the follow-up survey, similar to the baseline survey, was conducted among attendees following the health talk at the clinic. If respondents did not attend Health Talk, interviewers followed up on them at their houses and conducted a follow-up survey after Health Talk.

Data Analysis

Data were checked for completeness and inconsistencies after the data collection. CSPro version 6.1 was used for data entry and data were exported to Stata version 15. Descriptive statistics were computed on the health talk attendance, follow-up rate, and the actual take-up of family planning methods after the Health Talk. The multivariable analysis was used to evaluate the association between various independent variables and the attendance of the Health Talk. Finally, OLS regression analysis was used to evaluate the changes in fertility preferences, knowledge and preferences of family planning among women and men after the Health Talk.

Ethical considerations

Ethical clearance was obtained from Health Research Ethical Committee of Adamawa State Ministry of Health. Verbal informed consent was obtained from all study participants and they were assured of voluntary withdrawal from the study at any point. Each study participant was given 300 naira as compensation for their time.

Result

A total of 95 married women and 96 married men were interviewed at baseline survey, giving a response rate of 96.9%. We approached a total of 197 people, of which one woman was later revealed ineligible, and five people refused to participate in the study.

Summary Statistics on Sociodemographic characteristics

Table 1 Panel A shows the descriptive statistics on sociodemographic characteristics among women and men.

Women: On average, the age among women was 29.41 (SD 7.17) years old and their husband was 42.71 (SD 9.71) years old. Forty percent of women did not attain any formal education, while 25.3 % and 34.7 % of women completed primary education and secondary education or more, respectively. Over eighty-five (85.3) percent was Muslim. Women had been married to their husband for 11.15 (SD 6.83) years on average. Women's husbands had on average 1.48 wives, including the respondents. Women's household earned on average 3309.2 naira (\$1=357 naira as of Oct 2018) per person past month. Over eighty-five percent of women had paid work. The average number of children a woman had was

3.78 (SD 2.57), while forty percent of them experienced deaths of their children, including miscarriage and stillbirths.

Men: For men, the average age was 40.43 (SD 8.82) years old, and their wife was 26.9 (SD 6.81) years old. More than seventy percent (71.9%) had secondary education or more, while 12.5% did not have any formal education. Almost 90 percent (89.6%) was Muslim. Men had been married to their wife for 9.30 years

on average. The average household earning in the past month was 3332.5 naira. Almost all the respondents (97.9%) had paid work. On average, they have 3.24 (SD 3.08) children and 28.1% of them experienced the deaths of their children.

Attendance at Health Talk

Table 2 shows the descriptive statistics among respondents at Health Talk and at follow-up survey.

Table 1: Summary statistics on sociodemographic characteristics (Baseline Survey).

| Variable | Women (N=95) | | Men (N=96) | |
|----------------------------------|--------------|-----------|------------|-----------|
| | Mean | Std. Dev. | Mean | Std. Dev. |
| Age | 29.411 | 7.167 | 40.432 | 8.811 |
| Spouse's age | 42.71 | 9.711 | 26.896 | 6.811 |
| Education | | | | |
| No education | 0.4 | 0.492 | 0.125 | 0.332 |
| Primary school | 0.253 | 0.437 | 0.146 | 0.355 |
| Secondary school or more | 0.347 | 0.479 | 0.719 | 0.452 |
| Religion = Muslim | 0.853 | 0.356 | 0.896 | 0.307 |
| Years of Marriage | 11.147 | 6.825 | 9.298 | 7.134 |
| Number of Wife Husband (Men) Has | 1.484 | 0.742 | 1.344 | 0.63 |
| Earning per capita last month | 3309.2 | 5773 | 3332.5 | 4081.9 |
| Has paid work | 0.853 | 0.356 | 0.979 | 0.144 |
| Number of children alive | 3.789 | 2.572 | 3.24 | 3.08 |
| Child died | 0.4 | 0.492 | 0.281 | 0.452 |

Table 2: High attendance of health talk and willingness to know fp (Follow-up Survey).

| | Women | | Men | |
|--|-------------|----------|-------------|----------|
| | Mean | Std. Dev | Mean | Std. Dev |
| Among total sample | N=95 | | N=96 | |
| Absent at Health Talk and at Follow-up | 0.021 | 0.144 | 0.146 | 0.355 |
| Health Talk non-Attendance but available at Follow-up | 0.137 | 0.346 | 0.052 | 0.223 |
| Health Talk Attendance and available at Follow-up | 0.842 | 0.367 | 0.802 | 0.401 |
| Among Follow-up Respondents | N=93 | | N=82 | |
| Received Info (either at Health Talk or individually at follow-up) | 0.989 | 0.104 | 0.988 | 0.11 |
| Intention of FP now or in the future | 0.871 | 0.337 | 0.878 | 0.329 |
| Among Follow-up Respondents with FP intention | N=81 | | N=72 | |
| When to take FP | | | | |
| Within 1year | 0.543 | 0.501 | 0.625 | 0.488 |
| 1-5 years | 0.346 | 0.479 | 0.347 | 0.479 |
| 5-10 years | 0.111 | 0.316 | 0.028 | 0.165 |
| Type of FP desired (intention) | | | | |
| Female sterilization | 0 | 0 | 0 | 0 |
| IUD | 0 | 0 | 0 | 0 |
| Implant | 0.457 | 0.501 | 0.472 | 0.503 |

| | | | | |
|--|-------------|-------|-------------|-------|
| Injectables | 0.222 | 0.418 | 0.292 | 0.458 |
| Oral pills | 0.309 | 0.465 | 0.208 | 0.409 |
| Among Health Talk Attendee | N=80 | | N=77 | |
| Actual FP take-up today | 0.225 | 0.42 | | |
| FP take-up recommend to wife today | | | 0.416 | 0.496 |
| Among Health Talk Attendee who wants FP now | N=18 | | N=32 | |
| Type of FP desired today (actual) | | | | |
| Implant | 0.5 | 0.514 | 0.5 | 0.508 |
| Injectables | 0.056 | 0.236 | 0.313 | 0.471 |
| Oral pills | 0.444 | 0.511 | 0.188 | 0.397 |

Women: A high proportion of women (84.2%) attended the Health Talk and participated in the follow-up survey, while 13.7% of women did not attend Health Talk but participated in the follow-up survey and 2.1% of women did not attend Health Talk nor were they available at the time of follow-up survey. Even if respondents did not attend the Health Talk, they were offered an opportunity to receive information on family planning during the follow-up survey. Among women who participated in the follow-up survey, almost all (98.9%) of women received the information on family planning either at Health Talk or during the follow-up survey. Eighty-seven percent of women showed their intention to receive family planning now or in the future at the follow-up survey. Among women who intended to use family planning, more than half of them (54.3%) intended to use it within a year and slightly less than half (45.7%) chose implants as the preferred method, followed by oral pills (30.9%) and injectables (22.2%). The study offered the opportunity for women to receive a family planning method at the health facility when they attended the Health Talk. Among women who attended the Health Talk, 22.5% (N=18) of women actually took up the family planning on the day of Health Talk; half of them (50.0%) took implant, 44.4% of them took oral pills, and 5.6% took injectable.

Men: Eighty percent of men attended the Health Talk at health clinics and participated in the follow-up survey, while 5.2% of men

did not attend the Health Talk but participated in the follow-up survey and 14.6% of men did not attend the Health Talk nor were they available at the time of follow-up survey. Among men who participated in the follow-up survey, almost all (98.8%) of men received the information on family planning either at the Health Talk or during the follow-up survey. Almost 90 percent (87.8%) of men showed their intention to have their wife receive family planning now or in the future at the follow-up survey. Among men who intended to have their wife use family planning, more than sixty percent of them (62.5%) intended to use it within a year and slightly less than half (47.2%) chose implants as the preferred method, followed by injectables (29.2%) and oral pills (20.8%). Among men who attended the Health Talk, 41.6% (N=32) of them indicated that they will recommend their wife to visit the health facility to actually take up the family planning on the day of Health Talk. Their preferred method for their wife was implant (50.0%), followed by injectable (31.3%) and oral pills (18.8%).

Determinants of Health Talk Attendance

In this section, we evaluate the determinants of Health Talk attendance to reveal which characteristics of individuals who have higher demand for the information on family planning. Table 3 shows the correlation between various characteristics and the likelihood of the attendance at Health Talk.

Table 3: Correlation between sociodemographic characteristics and health talk attendance

| | Women | | Men | |
|---|------------------------|----|--------|----|
| | Health Talk Attendance | | | |
| | -1 | -2 | -3 | -4 |
| Woman's characteristics | | | | |
| Age 25-35 (control: Age=15-25) | 0.077 | | 0.251 | |
| | -0.103 | | -0.207 | |
| Age 35-45 (control: Age=15-25) | 0.139 | | 0.195 | |
| | -0.167 | | -0.16 | |
| Education (control=no education) | | | | |
| Primary school | 0.078 | | -0.103 | |

| | | | | |
|--|--------|--------|---------|--------|
| | -0.105 | | -0.12 | |
| Secondary or more | 0.044 | | -0.048 | |
| | -0.11 | | -0.131 | |
| Muslim | -0.118 | | -0.081 | |
| | -0.13 | | -0.159 | |
| Man's characteristics | | | | |
| Age 40 or older | 0.128 | | 0.025 | |
| | -0.107 | | -0.148 | |
| Education (control=no education) | | | | |
| Primary school | 0.11 | | -0.25 | |
| | -0.153 | | -0.174 | |
| Secondary or more | 0.184 | | -0.270* | |
| | -0.139 | | -0.152 | |
| Couple's characteristics | | | | |
| Years of Marriage | -0.008 | | -0.003 | |
| | -0.009 | | -0.009 | |
| Number of wives | 0.001 | | 0.018 | |
| | -0.061 | | -0.085 | |
| HH characteristics | | | | |
| Earning per capita last month | 0 | | 0 | |
| | 0 | | 0 | |
| Has paid work | -0.021 | | 0.121 | |
| | -0.119 | | -0.328 | |
| Fertility | | | | |
| Number of children alive | -0.028 | | 0.015 | |
| | -0.023 | | -0.021 | |
| Child died | -0.051 | | 0.015 | |
| | -0.09 | | -0.104 | |
| Fertility Preference | | | | |
| Number of children wanted in the future | | 0.009 | | 0.006 |
| | | -0.014 | | -0.007 |
| Number of children wanted in 2 years | | -0.037 | | -0.032 |
| | | -0.081 | | -0.085 |
| Spouse wants more # children | | -0.063 | | -0.095 |
| | | -0.089 | | -0.105 |
| Very happy with spouse on children | | 0.124 | | 0.083 |
| | | -0.111 | | -0.111 |
| Spacing is good | | -0.09 | | -0.053 |
| | | -0.097 | | -0.098 |
| Knowledge, Perceptions, Attitudes on FP | | | | |
| % FP methods known | | 0.029 | | 0.212 |
| | | -0.148 | | -0.151 |
| Perceive FP is good (out of 4) | | -0.045 | | 0.017 |
| | | -0.044 | | -0.041 |
| Intention of FP now or in the future | | 0.191* | | -0.04 |
| | | -0.098 | | -0.128 |

| | | | | |
|----------------|----------|----------|--------|----------|
| FP ever | | 0.129 | | -0.123 |
| | | -0.11 | | -0.129 |
| _cons | 0.861*** | 0.631*** | 0.849* | 0.698*** |
| | -0.21 | -0.16 | -0.435 | -0.199 |
| N | 94 | 93 | 93 | 94 |
| r ² | 0.14 | 0.097 | 0.098 | 0.056 |

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%

Women: Out of 95 female respondents, 81 of them attended the Health Talk (Table 2). None of the sociodemographic characteristics of women, their husbands, and their household such as age, education level, religion, earning as well as fertility were correlated with the attendance at Health Talk. Women's intention of using family planning now or in the future is positively correlated with the attendance; if a woman has intention, the probability of attending the Health Talk increases by 19.1 percentage points.

Men: Out of 96 male respondents, 72 of them attended the Health Talk (Table 2). Men's higher educational attainment is

negatively correlated with the attendance at Health Talk; if a man has secondary education or more, the probability of attending the Health Talk is lower by 27 percentage points.

Change in Knowledge and Preference Before and After Health Talk

Table 4 shows the change in fertility preference, and Table 5 shows the change in knowledge and preference on family planning before and after the Health Talk among respondents who attended the Health Talk and participated in the follow-up survey.

Table 4: Change in knowledge and preference before/after health talk (Fertility).

| | Number of Children Wanted In 2 Years | (Self) Having Many Children Is Good | (Spouse) Having Many Children Is Good | (Community) Having Many Children Is Good | Spacing is Good |
|-----------------------|--------------------------------------|-------------------------------------|---------------------------------------|--|-----------------|
| Panel A: Women | (1) | (2) | (3) | (4) | (5) |
| After Health Talk | 0.129 | -0.126*** | -0.105** | -0.063 | 0.116 |
| | -0.104 | -0.042 | -0.042 | -0.053 | -0.072 |
| constant | 0.674*** | 0.158*** | 0.147*** | 0.189*** | 0.516*** |
| | -0.073 | -0.029 | -0.03 | -0.037 | -0.051 |
| N | 186 | 190 | 190 | 190 | 190 |
| r ² | 0.008 | 0.047 | 0.032 | 0.007 | 0.014 |
| Panel A: Men | (1) | (2) | (3) | (4) | (5) |
| After Health Talk | 0.068 | -0.135*** | -0.052 | 0 | -0.042 |
| | -0.084 | -0.046 | -0.045 | -0.046 | -0.071 |
| constant | 0.833*** | 0.188*** | 0.135*** | 0.115*** | 0.615*** |
| | -0.057 | -0.033 | -0.032 | -0.033 | -0.05 |
| N | 177 | 192 | 192 | 192 | 192 |
| r ² | 0.004 | 0.043 | 0.007 | 0 | 0.002 |

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%

Women: After the Health Talk, the probability of women who think that it is good to have many children decreases by 12.6 percentage points and the probability of women think that their husband think it is good to have many children also decreases by 10.5 percentage points, although the number of children they want in the next 2 years did not change (Table 4). On the other hand, their perception that people in the community think it is good to have many children did not change. After the Health Talk, the number of family planning methods that women know increases by 2.5 (31.2 percentage points) (Table 5). The knowledge of each

family planning method increases significantly (Table not shown). The number of correct answers about family planning also increased by 1.2 (17.1 percentage points). After the Health Talk, women are 12.4 percentage points more likely to have intention of receiving family planning now or in the future, although the perception about family planning did not change.

Men: After the Health Talk, the probability of men who think that it is good to have many children decreases by 13.5 percentage points but the probability of men who think that their wife or

people in the community think it is good to have many children did not change significantly. The number of children they want in the next 2 years and the perception of spacing did not change. After the Health Talk, the number of family planning methods that men know increases by 1.8 (22.7 percentage points). The knowledge

of each family planning method increases significantly, except for injectables, oral pills and condoms. The number of correct answers about family planning also increased by 0.8 (11.0 percentage points). Men's intention to have their wife receive family planning, however, did not change significantly after Health Talk.

Table 5: Change in knowledge and preference before/after health talk (Family Planning).

| | Knowledge on FP | | Perception on FP | |
|-----------------------|-------------------------------|--------------------------------------|--------------------------------|--------------------------------------|
| | # FP Methods known (out of 8) | # Correct Knowledge on FP (out of 7) | Perceive FP is Good (out of 4) | Intention of FP now or in the Future |
| Panel A: Women | (1) | (2) | (3) | (4) |
| After Health Talk | 2.495*** | 1.200*** | 0.168 | 0.124** |
| | -0.312 | -0.278 | -0.14 | -0.057 |
| constant | 4.547*** | 3.958*** | 0.411*** | 0.747*** |
| | -0.221 | -0.196 | -0.099 | -0.04 |
| N | 190 | 190 | 190 | 188 |
| r ² | 0.253 | 0.09 | 0.008 | 0.025 |
| Panel A: Men | (1) | (2) | (3) | (4) |
| After Health Talk | 1.813*** | 0.771** | -0.052 | 0.055 |
| | -0.377 | -0.327 | -0.146 | -0.054 |
| constant | 4.698*** | 3.740*** | 0.469*** | 0.823*** |
| | -0.267 | -0.231 | -0.103 | -0.037 |
| N | 192 | 192 | 192 | 178 |
| r ² | 0.108 | 0.028 | 0.001 | 0.006 |

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%

Discussion

This study evaluates the demand for the health information around family planning and examines whether the perceptions about family planning changes after attending the Health Talk. We observed a high demand for the information on family planning among both women and men. Health Talk achieved the attendance of more than 80% for both men and women (84.2% and 80.2%, respectively) who completed the baseline survey. Even if they did not attend the Health Talk, when respondents were offered the information on family planning during the follow-up survey, 99% of respondents were willing to get the information. In addition to this demand for the information, the demand for the family planning methods now or in the near future was also very high. More than 87% of respondents, both women and men, had intention of using family planning methods now or in the future, and more than half (54.3% for women and 62.3% for men) of them intended to use some family planning methods within a year.

To our knowledge, there is no existing study that evaluate the demand for the information on family planning. Many studies have found that most of women in Africa have some knowledge of contraceptive methods [9-11], although the lack of knowledge

is still one of the main reasons of not using the modern family planning among women in Africa [12]. This paper found the consistent result with existing studies; most of respondents; both women and men, have some knowledge on family planning. With this certain level of knowledge, however, most of them still desire to get more information on family planning. This result implies that people feel the need of acquiring the deeper knowledge than what they have. Future studies need to assess what information is lacking which prevents people from making informed decisions on family planning.

Through the interaction with respondents during Health Talk, it was revealed that many respondents had heard of some family planning methods but did not know how the method worked. For example, most of men knew male condoms and what they look like, but many did not know the correct way to use them. It was also observed that many men were concerned about the possible side effects on their wives. For example, many heard that some family planning methods could cause cancer in women, or that women would never be able to conceive children once they use some family planning methods. Because male involvement can help women accept contraceptive as well as learn its effective use

and continuation [13], it is important to provide sufficient and correct information on family planning to both men and women.

There was a moderately high demand for the family planning methods, giving the extremely low current take-up of family planning. More than one-fifth (22.5%) of women actually took some family planning methods on the day of Health Talk. This take-up rate is higher than the proportion of women who ever used family planning methods (18.9%) and much higher than the current family planning take-up of 7.4%. Among men, a very high proportion (41.6%) of them indicated that they will recommend their wife to take the family planning on the same day as Health Talk. Through this study, we observed high demand for the information on family planning as well as the high demand for the family planning methods both from women and men. We did not observe any major opposition from husbands on women's take-up on family planning methods, either. Rather, husbands are more receptive about the family planning.

Although most of women and men attended Health Talk, women were more likely to attend if they had intentions in taking the family planning. Some of women we interviewed at the baseline survey indicated the problem of infertility despite the desire to have children, and they were less likely to have intention of using family planning methods and they can be less likely to attend Health Talk (suggestive evidence only). Among men, much larger proportion of them were not available at follow-up and absent from Health Talk than women (14.6% for men vs. 2.1% for women). This higher absence at Health Talk among men was correlated with higher education attainment. Because Health Talk for men took place in the morning during the weekday, it is likely that many men could not attend Health Talk nor could they participate in the follow-up survey due to work.

After Health Talk, both women and men changed their perceptions on birth spacing as well as knowledge level and perceptions on family planning. In particular, both women and men were less likely to think that having many children is good after Health Talk than before Health Talk. They also increased the level of correct knowledge on family planning including methods, advantages, and disadvantages of each method. Furthermore, the likelihood that women show the intention of receiving family planning now or in the future increased after Health Talk. This result suggests that the information on family planning significantly improves the level of understanding around the childbirth spacing and family planning.

Despite the high demand for the family planning, the current take-up of family planning was very low. This gap of high demand and low actual take-up of family planning might imply that people in the region face the problem from the supply side. Extant studies have emphasized the importance of contraceptive supply reliability to increase the use of contraceptive methods [14,15]. Indeed, we qualitatively observed that health clinics often suffer

from the shortage of supply of family planning methods such as implants and injectables as well as supplemental commodities such as cotton wool, pregnancy test kit, and syringe. It is important to ensure the stock availability of family planning methods and any supplemental commodities in each clinic.

There are a number of limitations in our study. First, the sample was not randomly selected thus it might not be representative. Although we made sure that we approached all the households, this method could still cause some bias. We do not claim the external validity of the study. Second, although we find the high demand for Health Talk, it might be the case that only the respondents who consented to participate in the baseline have higher demand for the information on family planning than the average population. Although the study cannot objectively evaluate the biasedness of the sample, however, this is unlikely because we only have very few refusals to participate in the survey. Third, the scalability of Health Talk might be a concern if we decide to scale-up the project as we do not know the effectiveness of Health Talk which involves more people. Fourth, although we actually observed the demand for family planning among females as they could receive the family planning method at Health Talk, evaluating the true intention of male recommending the family planning use to their wives is challenging in our study because we did not observe the actual take-up of family planning among male respondents' spouses.

Conclusion

a) This paper evaluates the demand for the information about family planning and changes in perception and knowledge about fertility preference and family planning among married women and men in northeastern Nigeria, where the family planning take-up is extremely low. We observed a high demand for the information on family planning among both women and men. After the information provision through Health Talk, both women and men prefer having less children than before the Health Talk and increase the level of correct knowledge around family planning. Almost 90 percent of both women and men indicated their intention of using the family planning now or in the future. When offered, significantly more proportion of women actually received the family planning at Health Talk than at the baseline rate. There is little indication of the barriers to family planning take-up due to low acceptability of family planning. The findings of this paper imply that the low take-up of the family planning can be mainly due to the supply-side barriers, such as shortage of family planning stock.

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