Biases in Contraceptive Service Provision among Clinical and Non-Clinical Family Planning Provider Network Members in Nigeria

Introduction

The Nigeria Urban Reproductive Health Program (NURI) aims to increase contraceptive use in four urban areas of Nigeria. While the program has a large demand generation component, other aspects of increasing family planning use are not ignored – such as improving contraceptive service delivery. Under the task of improving service delivery, NURHI has spearheaded the formation of a Family Planning Provider Network (FPPN) in each intervention city. The FPPN is an essential component of the NURHI program – as it allows the project direct access to family planning providers as a unit for training, training updates, exposure to other program areas as well as promoting the demand generation activities. The main goal of the FPPN is to improve referral patterns from non-clinical providers to clinical providers – to increase access to long acting and permanent methods of family planning. Approximately one quarter of all women currently access family planning from non clinical providers, patent medical vendors (PMVs) in urban Nigeria.

The FPPN is a new entity in Nigeria. In order to understand the baseline FPPN members' personal and professional background, knowledge, service delivery biases and network structure – a baseline study was conducted. What follows are the findings from the baseline study of the NURHI FPPN.

Methods

Data on all registered FPPN members in Abuja, Ibadan, Ilorin and Kaduna were collected in November and December of 2011. Consent was obtained from each study participant prior to data collection. Data were collected from study participants via a self-administered survey. The survey included questions on demographics, professional work history, personal family planning use, questions on provision, referral, biases towards provision of each type of contraceptive method, contraceptive knowledge and identification of personal and professional network members within each city.

Responses to service provision biases questions for each method, on age, parity, marital status, and partner's consent restriction, were summed to create an overall aggregate bias measure. Linear regression was utilized to discern whether gender, age, religion, personal family planning use, provider type and city of residence was correlated with the level of contraceptive service provision biases.

Results

At baseline, there were a total of 314 FPPN members. The majority in all cities are female (69%), the distribution of members that are female is highest in Abuja (85%) and lowest in Ilorin (52%), but even in Ilorin the females make up the majority of the network. The ages of the FPPN range from 19 to 80 years

with the average age for all four cities at 44. The average age of the FPPN members does not differ greatly by city. The distribution of religion differs by city – from 89% Christian and 11% Muslim in Abuja to 46% Christian and 35% Muslim in Ilorin. The vast majority of the FPPN members have used a modern method of family planning (91%) but this indicator drops to less than half (41%) when restricted to use of long-acting and permanent methods (LAPM) of family planning. The highest use of LAPMs is in Ibadan at 47% and is lowest in Kaduna at 38%. IUD use is nearly equal to that of injectable use among network members, at 37% and 41%, respectively.

Table 1. Personal Characteristics of FPPN Members by city, 2011

	Abuja (n = 54)	Ibadan (n = 71)	Ilorin (n = 81)	Kaduna (n = 108)	Total (n = 314)
Sex					
Male	14.8	16.9	48.2	36.1	31.2
Female	85.2	83.1	51.8	63.9	68.8
Age (range: 19 - 80)	44.5	43.3	46.8	42.6	44.2
Religion					
Christian	88.9	64.8	45.7	63.9	63.7
Islam/Other	11.1	35.2	54.3	36.1	36.3
Ever Modern FP Use					
No	16.7	9.9	2.5	8.3	8.6
Yes	83.3	90.1	97.5	91.7	91.4
Ever LAPM FP Use					
No	61.1	53.5	60.5	62.0	59.5
Yes	38.9	46.5	39.5	38.0	40.5
Type of Method Used					
Condom	61.1	64.8	65.4	56.5	61.5
EC	35.2	23.9	29.6	30.6	29.6
OCP	50.0	46.5	44.4	58.3	50.6
Injectable	40.7	32.4	39.5	46.3	40.5
Implant	7.4	11.3	6.2	11.1	9.2
IUD	37.0	46.5	32.1	35.2	37.3
Sterilization	5.6	2.8	6.2	2.8	4.1

Most FPPN members have received formal training in family planning service provision; however, only 38% have been formally trained within the last five years. The distribution of facility type differs by city. In Abuja, there are no patent medical vendors (PMV) represented in the FPPN and 57% of the membership works at public hospitals. In comparison, in Ibadan and Ilorin, PMV operators make up the majority of FPPN members. The second most common facility type represented in Ibadan and Ilorin is the Primary Health Center (PHC) – although PHCs are nearly double in Ibadan as compared to Ilorin in FPPN member representation (30% vs. 17%). Pharmacy operators make up a larger share of the FPPN in

Ilorin, at 13%, as compared to Ibadan, at 3%. PHCs, public hospitals and PMVs are nearly equally represented in Kaduna.

The main type of staff in FPPNs across all four cities is nurses, midwives and nurse-midwives, while doctors make up just 3% of the FPPN. Community outreach workers make up one-fifth of the FPPN in all cities except Ilorin.

Implants and IUDs are much less likely to be offered in Ilorin as compared to the other three cities. Sterilization is offered at almost a quarter of members' facilities in Abuja – at least double the availability of sterilization at FPPN member facilities in the other three cities (see Table 2).

Table 2. Professional Characteristics of FPPN Members by city, 2011

	Abuja (n = 54)	Ibadan (n = 71)	Ilorin (n = 81)	Kaduna (n = 108)	Total (n = 314)
Years working in healthcare	18.2	17.4	19.8	18.2	18.4
Years providing family planning	9.9	9.8	12.8	10.1	10.7
Formal training on family planning					
No	20.4	7.0	3.7	12.0	10.2
Yes, 5+ years ago	40.7	56.3	58.0	50.0	51.9
Yes, < 5 years ago	38.9	36.6	38.3	38.0	37.9
Current facility type					
Public Hospital	57.4	16.9	13.6	24.1	25.5
Private Hospital	3.7	4.2	9.9	5.6	6.1
Primary Health Center	13.0	29.6	17.3	28.7	23.3
Clinic	3.7	8.5	3.7	1.9	4.1
Pharmacy	14.8	2.8	12.4	9.3	9.6
PMV	0.0	33.8	35.8	21.3	24.2
Other	7.4	4.2	7.4	9.3	7.3
Staff type					
Doctor	5.6	2.8	2.5	1.9	2.9
Nurse/Midwife	57.4	42.3	34.6	48.2	44.9
Pharmacist	13.0	1.4	16.1	8.3	9.6
PMV	0.0	32.4	37.0	19.4	23.6
Community outreach worker	20.4	19.7	2.5	20.4	15.6
Other	3.7	1.4	7.4	1.9	3.5
Methods Available at Workplace					
Condom	90.7	98.6	91.4	90.7	92.7
EC	27.8	40.9	46.9	37.0	38.9
OCP	87.0	85.9	80.3	94.4	87.6
Injectable	88.9	66.2	58.0	89.8	76.1
Implant	50.0	35.2	16.1	30.6	31.2

	Abuja	Ibadan	Ilorin	Kaduna	Total
IUD	66.7	52.1	43.2	63.0	56.1
Sterilization	24.1	9.9	6.2	12.0	12.1

Contraceptive service provision biases in the FPPN are as low as 3% (marital status bias towards condom service provision in Ibadan) and as high as 97% (partner's consent bias towards sterilization in Ibadan). Age and parity biases are less common than marital status and partner's consent biases; however, partner's consent is often a bias shared by more FPPN members than is marital status.

Ibadan consistently has the highest bias score – overall and for each contraceptive method type – as compared to the other three cities. Abuja has the lowest bias scores and Kaduna has the second lowest bias scores (see Table 3).

Table 3. Family planning provider contraceptive service provision biases by contraceptive method and city, 2011

	Abuja (n = 54)	Ibadan (n = 71)	Ilorin (n = 81)	Kaduna (n = 108)	Total (n = 314)
Condoms					
Age	16.7	22.5	32.1	17.6	22.3
Marital Status	3.7	2.8	7.4	12.0	7.3
Bias Score	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**
OCPs					
Age	20.4	47.9	34.6	24.1	31.5
Parity	11.1	29.6	21.0	21.3	21.3
Partner's Consent	37.0	77.5	60.5	67.6	62.7
Marital Status	22.2	32.4	39.5	23.2	29.3
Bias Score	**1.1**	**2.2**	**1.8**	**1.5**	**1.7**
EC					
Age	20.4	36.6	24.7	18.5	24.5
Parity	3.7	18.3	12.4	9.3	11.1
Partner's Consent	31.5	54.9	34.6	51.9	44.6
Marital Status	20.4	32.4	34.6	18.5	26.1
Bias Score	**0.7**	**1.4**	**1.0**	**0.9**	**1.0**
Injectables					
Age	16.7	35.2	28.4	25.0	26.8
Parity	25.9	53.5	33.3	25.0	33.8
Partner's Consent	38.9	74.7	55.6	61.1	58.9
Marital Status	38.9	70.4	70.4	46.3	56.7
Bias Score	**1.2**	**2.3**	**1.7**	**1.5**	**1.7**
Implants					
Age	11.1	33.8	16.1	14.8	18.8

Parity	9.3	49.3	23.5	15.7	24.2
Partner's Consent	35.2	71.8	63.0	60.2	59.2
Marital Status	59.3	25.4	30.9	50.9	58.6
Bias Score	**0.8**	**2.3**	**1.6**	**1.3**	**1.5**
IUD					
Age	14.8	15.5	18.5	15.7	16.2
Parity	11.1	28.2	17.3	16.7	18.5
Partner's Consent	35.2	74.7	63.0	65.7	61.8
Marital Status	31.5	43.7	60.5	50.0	48.1
Bias Score	**0.9**	**1.6**	**1.5**	**1.3**	**1.4**
Sterilization					
Age	20.4	36.6	23.5	17.6	23.9
Parity	35.2	60.6	44.4	29.6	41.4
Partner's Consent	90.7	97.2	80.3	82.4	86.6
Marital Status	94.4	91.6	90.1	77.8	86.9
Bias Score	2.3	2.9	2.3	2.0	2.3
Total Bias Score	**7.1**	**12.9**	**10.0**	**8.9**	**9.8**

In the biases multivariate regression analysis, results demonstrated that sex, religion and prior LAPM use were not associated with biases. Age was correlated with bias level, in an unsuspecting direction – younger network members have more biases than older network members. PMV operators and community outreach workers were more likely to have biases than clinicians. Finally, network members in Ibadan and Ilorin were more biased than those in Abuja. There was no significant difference in average bias level between Abuja network members and those network members in Kaduna (see Table 4).

Table 4. Linear regression results of the association between demographic, personal family planning use, staff type and residence on FPPN members' bias score, 2011

	Bias Score
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Sex (ref = male)	-1.18
Age	-0.07**
Religion (ref = Christian)	0.48
LAPM Use (ref = no)	0.29
Staff Type (ref = clinician)	
Pharmacist	1.08
PMV	2.43***

Community Health Worker	2.19**
Other	1.15
City (ref = Abuja)	
Ibadan	4.96****
Ilorin	1.94*
Kaduna	0.87

*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$; ****$p < 0.001$

Discussion

Personal LAPM family planning use was not correlated with service provision biases among this sample of family planning providers in Nigeria. Religion, in a country that often describes differences in people based on religion, is not associated with bias level, either. The results by city reflect the finding on religion – as FPPN members Ibadan and Ilorin are both more biased than those in Abuja, with Kaduna having a bias level on par with Abuja.

Network member age, residence and provider type are associated with service provision biases. The younger the provider the more biased. The providers closest to the consumer – the PMV operators and community health workers – have the strongest contraceptive service provision biases.

Efforts to increase use of LAPMs through referral patterns from lower tier providers to higher tier providers are unlikely to be successful as long as lower tier providers have strong service provision biases. A PMV operator is unlikely to refer a young, unmarried woman to a public hospital for an IUD, or even an injectable, due to biases against marital status and partner's consent for method use – even though she is less likely to come across provider biases at the public hospital, she is unlikely to ever make it to the public hospital when her main family planning interface is the PMV provider.

The FPPN is a unique context in which it is possible to create an environment for clinicians and non-clinicians to mingle and learn from each other. It is possible that PMV operators and community outreach workers, through interactions with clinical network members during FPPN events, could reduce service provision biases. The FPPN is a great environment to test the effect of professional and personal networking among family planning providers on bias reduction.