Effectiveness of NURHI2 outreaches in improving uptake of LARC methods

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Background

Family planning has been proven to save and enhance the lives of women, children, and families. Among several benefits, it has been proven to reduce unintended and unwanted pregnancies. Access to family planning services enables both singles and married to better plan for the number of children they can cater for, reduces unsafe abortions, enables women to recover between deliveries and properly take care of their children. This is key to reducing Nigeria's maternal and infant mortality rates.

Short acting reversible contraceptives are reportedly more preferred among contraceptive users in developing countries owing to perceived minimal risks of side effects and higher levels of control users have over them (1). In Nigeria, where modern contraceptive prevalence rate is relatively low at 12% (2), the use of Long Acting Reversible Contraceptives (LARC) is even disturbingly lower. LARC methods are believed to be more effective and pivotal to increasing contraceptive prevalence because of their minimal adherence requirements, cost-effectiveness and long duration of action (3). However, utilization of these methods is hampered by both demand and supply barriers. The demand barriers include factors such as lack or low levels of awareness, fear of undesirable effects, refusal by partner and poor levels of interpersonal communication with providers (4,5). Supply barriers on the other hand include lack of knowledge, lack of trained providers, cost and stock out in the facilities (6).

Several approaches have been espoused by the government and other stakeholders to increase the uptake of FP in Nigeria. These include community based distribution of contraceptive commodities which is limited because there is no opportunity for proper counselling to allow informed choice but it was a good source of referral and the facilities within the vicinity witnessed a surge in the number of FP clients (7). Other approaches employed include outreaches, provision of consumables though often inadequate, renovation of facilities, provision of equipment and training and retraining of providers.

A proven approach to improving the uptake and utilization of Maternal, Newborn and Child Health (MNCH) services is community-based outreaches (8). A community-based family planning outreach program is an activity that brings FP information to women and men where they usually

reside. This is conducted through social mobilization activities and referrals to health facilities within their community to access their method of choice. Evidence has shown that community outreach is beneficial to increasing FP uptake by addressing the issues around service provision and encouraging more people to use contraceptives (9). More importantly, outreaches have been found to specifically increase the uptake of LARC (10). The outreach model helps address many of the barriers mitigating against the uptake of LARC by reducing inequities in accessing family planning services. For instance, studies have shown that providing increased access to contraception, especially the highly-effective LARC methods through a no-cost outreach program may decrease the rate of unintended pregnancies and unmet needs and thus increase contraceptives prevalence rate (CPR) (3,11). In addition, general planning for outreaches has its perks: It helps ensure commodity availability, thereby preventing stock out and ensuring regular supply of all methods. This is critical in preventing missed opportunities following referral of clients to facilities; It also creates the opportunity to build the capacity of providers for improved delivery of quality services as well as counselling skills. Counselling on LARC by giving appropriate information for clients to make an informed choice has improved uptake among women of reproductive age (6,12). Specifically, it has helped to reduce unmet needs for contraception (13).
This paper examines the family planning service data in Lagos state to determine the effect of outreaches on the uptake of LARC in selected public health facilities over a period of 12 months.

Intervention

The Nigerian Urban Reproductive Health Initiative 2 (NURHI 2) project envisions a Nigeria where supply and demand barriers to contraceptive use are eliminated and family planning becomes a social norm. The project aimed to accomplish the vision of increased CPR in family planning in its implementation sites (Kaduna, Lagos and Oyo States of Nigeria) through a positive shift in family planning social norms, at the structural, service and community levels. One of NURHI's strategic intervention in Lagos is to ensure that more women have access to contraceptives through community-based outreach services that are conducted routinely across 66 NURHI supported facilities.

NURHI's family planning community outreach is essentially a free service aimed at increasing contraceptive use and usually associated with intensive demand generation activities. Issues regarding the barriers to the uptake of contraceptives, most especially LARC are addressed during

the outreaches. This is because part of the interventions of the NURHI 2 project include the training of staff on LARC, ensuring availability of commodities to the State, procurement and distribution of consumables, the renovation of the FP clinics to provide audiovisual privacy, a separate counselling and procedure room and the procurement of basic equipment needed for quality FP service provision.

The concept of the NURHI 2 outreach is a facility-based outreach that has the advantage of providing a structured system for follow up and management of undesired effects by trained providers. Other aspects include demand generation activities such as social mobilization through the use of community focal persons both within and outside the designated facilities to create awareness in the communities and health facilities using various media. (these include) such as Fliers, Door to Door and Face to face mobilization, neighborhood campaigns, community dialogues, education entertainment and the community leaders. The mobilizers are trained to provide targeted information to a range of audience including men, women, young adults and adolescents. Most of this information are contained in leaflets that are distributed during the community mobilization and one on one conversation which goes a long way to cause behavior change and acceptance of contraceptives.

During the outreaches, a full range of contraceptive methods are made available and clients are given accurate and complete information about FP. The CHEWs and outsourced providers were used in addition to existing providers to reduce clients' waiting time. Outreaches provide an opportunity to get information and to understand the benefits of Family planning.

Methods

We adapted a quasi-experimental approach to test the impact of outreaches on the uptake of LARC from 50 health facilities where intervention took place. In each of these facilities, outreaches were conducted at least once in 3 months over a 12-month period. Specifically, family planning service providers were provided with adequate support by NURHI2 service delivery team to provide services to prospective users of contraceptives. Among other things, supports include: training providers to provide LARC methods; equipping family planning providers with messages that help to dispel prospective users' fears around the usage of LARC methods; and helping them to improve on their inter-personal counseling skills. We commenced the recording of contraceptive uptake in these facilities by July 2016 and also retrospectively recorded data from these facilities as part of

our baseline assessment against which we compared LARC uptake after 12 months of conducting outreaches in these facilities. Data was analyzed by first extracting the median scores and interquartile ranges (IQR) of the logarithm of LARC uptake, and conducted a paired t-test analysis to examine the difference in uptake of LARC between the intermediate period. An interrupted time series analysis was further conducted to establish the effect of the outreach intervention on the uptake of LARC.

Results

Nine months prior to intervention, the mean uptake of LARC across the 50 facilities was 6.04 (95% CI: 5.96 – 6.12). By 9 months into the implementation of the outreach intervention, the mean uptake had increased to 6.46 (95% CI: 6.30 – 6.62). The mean difference in the uptake of LARC between the 2 reference periods was 0.43 (95% CI -0.59 – 0.26) and was statistically significant at $p<0.001$.

Table 1: Descriptive Statistics of Long Acting Reversible Contraceptives Uptake at pre-intervention and Post-intervention periods

Period	**Mean (95% CI)**	**Median (IQR)**
Pre-intervention	6.04 (5.96 – 6.12).	6.03 (5.96 – 6.08)
Post-intervention	6.46 (6.30 – 6.62)	6.45 (6.30 – 6.64)

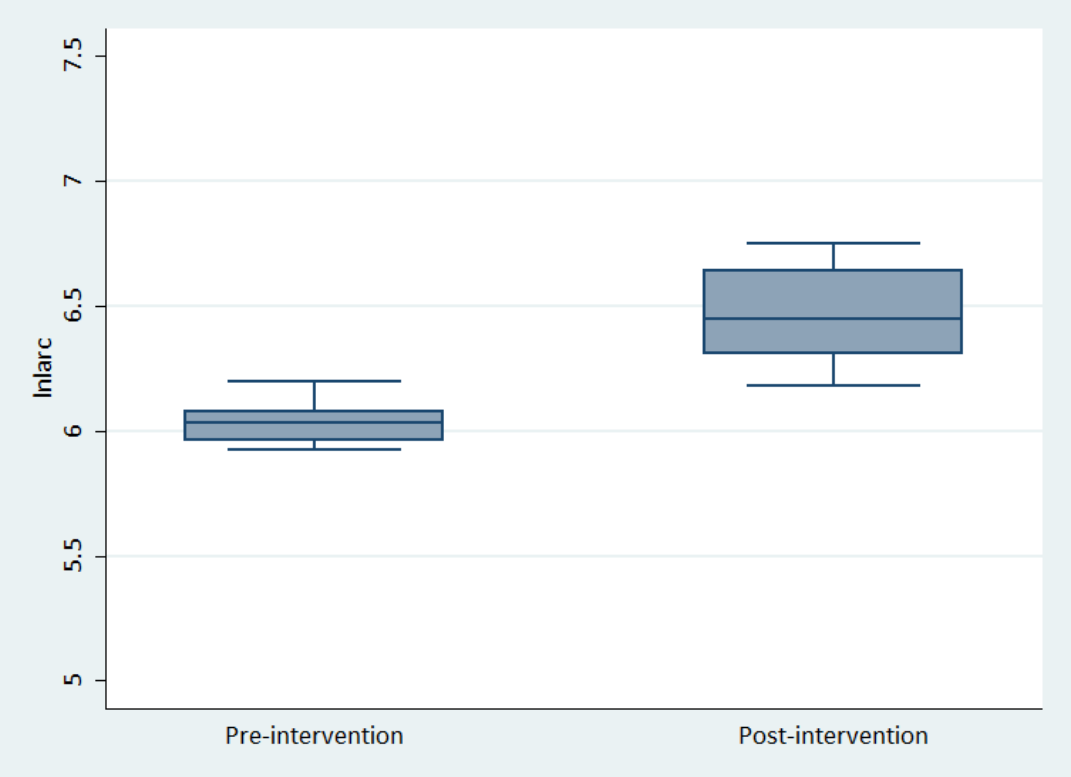

Figure 1: Box plot of LARC uptake at pre-intervention and Post-intervention periods

Further analysis of the data using an interrupted time-series analysis presents the effect of time, intervention and the interaction between time and intervention on the uptake of LARC. Generally, the influence of time, intervention and their interaction on LARC uptake is positive. However, only the interaction effect is statistically significant as a unit increase in the interaction leads to around 5%-point increase in LARC.

Table 2: Interrupted Time-Series Analysis Showing the Effect of the Intervention on LARC Uptake

lnlarc	**Coefficient**	**Std. Err.**	**[95% Conf. Interval**
_t	0.003	0.015	(-0.029 – 0.035)
_x	0.182	0.106	(-0.046 - 0.410)
_x_t	0.054**	0.016	(0.020 - 0.089)
_cons	6.025***	0.067	(5.881 - 6.169)
Linear Trend			
Treated	0.057***	0.0089	0.038 – 0.076

*** *p<0.001, ** p<0.01, * p<0.05*

Where:

_t = time since start of study

_x = dummy variable representing the intervention periods (pre-intervention periods 0, otherwise 1)

_x_t = interaction of _x and _t

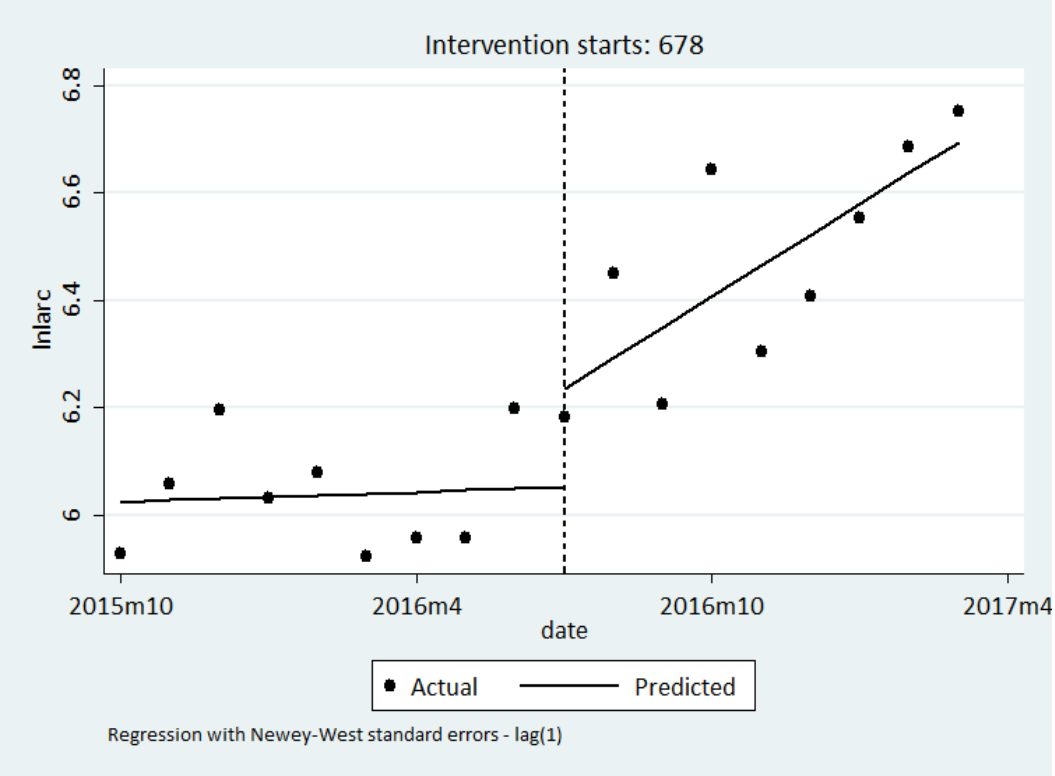

Figure 2: Interrupted time-series trend of LARC uptake

Discussion

This study uses descriptive statistics and interrupted time series analysis to estimate the effect of an outreach intervention across 50 family planning facilities in Lagos State Nigeria. Comparing 9 months retrospective data on the uptake of LARC with 9 months data into intervention, analysis finds that the uptake of LARC is significantly higher in the post-intervention period. This study has several implications for components of the outreach intervention described in this study which encompasses provision of trainings for family planning service providers to provide all methods of contraceptives accurately, with specific interest in long acting reversible contraceptives; training on interpersonal counseling and communication skills (IPCC) to provide balanced counselling; social mobilization activities in the communities around the family planning clinics; supporting the clinics with contraceptive commodities during the outreaches or in case of stock out; supply of consumables to outreach sites to ensure free services are provided. Most importantly, the result underpins the importance of providing family planning service providers with trainings and other necessary supports to conduct outreach. It has been documented that improving the skill of staff through trainings significantly influences the uptake of contraceptive methods (14).

Considering the availability of opportunities entrenched in the outreach process to improve the knowledge of prospective users, this study aligns with other studies that reported the significance of increasing users' levels of awareness and knowledge of contraceptives in influencing the use of contraceptives across population groups, particularly in developing countries (4, 6, 12). This is achieved by counselling on all methods particularly LARC by a trained provider; and giving appropriate information to clients in improving the attitude of women to uptake of LARC methods. The results further imply the necessity of community social mobilization as a tool for generating demand for family planning services. This corroborates a similar finding that deploying community mobilization increases uptake of family planning in communities (15). The result further suggests the importance of ensuring availability of all family planning commodities, most especially the long acting methods. Similar studies have also shown that increasing the contraceptive use of clients can be improved by providing a range of method choice for clients and ensuring that all methods are in stock (14,16). This does not exclude the availability of social and Behavior Change Communication (SBCC) materials that help provide more details information to clients.

Limitation

One main limitation of this study is that we cannot separate the effects of other program intervention components on the results observed, as indeed, there are other partners working on family planning in Lagos State with their interventions possibly affecting our findings and its interpretation. Also, trainings and supports for outreach on the provision of LARC requires a lot of logistics and are capital intensive. So, implementation was not uniform across the 50 facilities in the first few months of the intervention rollout. As such, the rate of LARC uptake from the onset of intervention were not uniform across facilities. In fact, while most of the facilities with more exposures to trainings and supports for outreach experienced significant improvement in the uptake of LARC, uptake was relatively lower in facilities that received fewer supports. Finally, we relied on the knowledge gained by an individual to be transferred to others through step down trainings to sustain knowledge and to ensure the availability of more providers. This was however not always the case as there were yet incidence of staff attrition, mostly affecting the trained staff.

Conclusion

With a significant increase in the mean uptake of LARC subsequent on the implementation of a tailored outreach intervention, our findings suggest a positive effect of outreach on the uptake of LARC. To achieve a sustained increase in the uptake of LARC and to expand access to quality LARC services among women, it is recommended that family planning outreaches should be planned, giving great considerations the contexts of the facilities conducting the outreaches. Also, service delivery should be supported through minimum standards of quality measures, providers' training (including step-down training/on-the-job training), monitoring, and supportive supervision.

References

1. Tibaijuka L, Odongo R, Welikhe E, Mukisa W, Kugonza L, Busingye I, et al. Factors influencing use of long-acting versus short-acting contraceptive methods among reproductive-age women in a resource-limited setting. BMC Womens Health [Internet]. 2017;17(1):25. Available from: https://doi.org/10.1186/s12905-017-0382-2

2. National Population Commission (NPC) [Nigeria] and ICF. 2019. Nigeria Demographic and Health Survey 2018. Abuja, Nigeria, and Rockville, Maryland, USA; NPC and ICF;

3. Mazza D, Black K, Taft A, Lucke J, McGeechan K, Haas M, et al. Increasing the uptake of long-acting reversible contraception in general practice: the Australian Contraceptive ChOice pRoject (ACCORd) cluster randomised controlled trial protocol. BMJ Open [Internet]. 2016;6(10). Available from: https://bmjopen.bmj.com/content/6/10/e012491

4. Atiemo M. Factors influencing utilization of contraceptives among women in Region, reproductive age (15-49 years) in the Ashanti-Mampong municipality of Ashanti. 2015.

5. Harper CC, Rocca CH, Thompson KM, Morfesis J, Goodman S, Darney PD, et al. Reductions in pregnancy rates in the USA with long-acting reversible contraception: a cluster randomised trial. Lancet [Internet]. 2015 Aug 8;386(9993):562–8. Available from: https://doi.org/10.1016/S0140-6736(14)62460-0

6. Glasier A, Scorer J, Bigrigg A. Attitudes of women in Scotland to contraception: a qualitative study to explore the acceptability of long-acting methods. J Fam Plan Reprod Heal care. 2008 Oct;34(4):213–7.

7. Lagos State. Lagos State Family Planning Costed Implementation Plan , 2016 – 2018. 2016.

8. Lassi ZS, Kumar R, Bhutta ZA. Community-Based Care to Improve Maternal, Newborn, and Child Health. In: Black RE, Laxminarayan R, Temmerman M, Walker N, editors. Washington (DC); 2016.

9. PSI. Taking Family planning to the village: using mobile outreach services to increase access to family planning in rural Togo [Internet]. 2014. Available from: https://www.psi.org/publication/taking-family-planning-to-the-village-using-mobile-outreach-services-to-increase-access-to-family-planning-in-rural-togo/

10. Gueye B, Wesson J, Koumtingue D, Stratton S, Viadro C, Talla H, et al. Mentoring, Task Sharing, and Community Outreach Through the TutoratPlus Approach: Increasing Use of Long-Acting Reversible Contraceptives in Senegal. Glob Heal Sci Pract [Internet]. 2016;4(Supplement 2):S33--S43. Available from: http://www.ghspjournal.org/content/4/Supplement_2/S33

11. Peipert JF, Madden T, Allsworth JE, Secura GM. Preventing unintended pregnancies by providing no-cost contraception. Obstet Gynecol [Internet]. 2012 Dec;120(6):1291–7. Available from: https://www.ncbi.nlm.nih.gov/pubmed/23168752

12. Siveregi A, Dudley L, Makumucha C, Dlamini P, Moyo S, Bhembe S. Does counselling improve uptake of long-term and permanent contraceptive methods in a high HIV-prevalence setting? African J Prim Heal care Fam Med [Internet]. 2015 Nov 6;7(1):779.

Available from: https://www.ncbi.nlm.nih.gov/pubmed/26842525

13. Amo-Adjei J, Mutua M, Athero S, Izugbara C, Ezeh A. Improving family planning services delivery and uptake: experiences from the "Reversing the Stall in Fertility Decline in Western Kenya Project." BMC Res Notes [Internet]. 2017;10(1):498. Available from: https://doi.org/10.1186/s13104-017-2821-4

14. Hamid S, Stephenson R. Provider and Health Facility Influences on Contraceptive Adoption in Urban Pakistan. Int Perspect Sex Reprod Heal. 2006;32(2):71–8.

15. Ifeyinwa Chizoba Akamike, Ijeoma Nina Okedo-Alex1, Ugochukwu Chinyem Madubueze1 CDU. Does community mobilisation improve awareness, approval and uptake of family planning methods among women of reproductive age in Ebonyi State Nigeria? Experience from a quasi-experimental study. Pan Afr Med J. 2019;33(17).

16. Taingson M, Adze J, Bature S, Durosinlorun A, Caleb M, Amina A, et al. Trend of modern contraceptive uptake and its predictors among women accessing family planning service in a tertiary hospital in Northwestern Nigeria, 2000–2014. Trop J Obstet Gynaecol [Internet]. 2017 Sep 1;34(3):201–6. Available from: http://www.tjogonline.com/article.asp?issn=0189-5117