

The Potential Effect of Patent and Proprietary Medicine Vendor and Client Characteristics on the Quality of Care Received by Injectable Contraceptive Clients

Background:

According to 2018 estimates, Nigeria is the 7th most populous nation with approximately 214 million inhabitants (Population Reference Bureau, 2018). The 2017 Nigeria Multiple Indicator Cluster Survey found 28% of currently married women have an unmet need for family planning—19% for spacing and 9% for limiting (NBS and UNICEF, 2017). Only 11% of married women of reproductive age use modern contraceptives. Among contraceptive users, 40% use injectable contraceptives, 21% use oral contraceptives, 13% use an implant, 10% use male condoms and 16% use various other methods (NBS and UNICEF, 2017). Patent and proprietary medicine vendors (PPMVs) are the most popular service delivery point for contraceptives with 38% of modern contraceptive users and 13% of injectable users obtaining their method from a PPMV (NPC, 2014). PPMVs are a popular source for basic health and short-acting contraceptive services (Corroon, 2016) because they are prevalent throughout Nigeria, have consistent drug stocks, have extended operational hours, offer more personable interactions, and do not charge separate fees for consultation (Brugha 2002; Adetunji 1991).

Despite the demand for PPMV-provided injectable services (Ajuwon, 2013), the law in Nigeria restricts PPMVs from selling and administering injectable contraceptives because they lack formal training (NPC, 2008 & 2003). The Federal Ministry of Health has acknowledged PPMVs' role in delivering contraceptive services and has included PPMVs in their FP2020 commitment to expand access to voluntary family planning services (FP2020, 2017). Tasking-shifting certain contraceptive services to drug shops and pharmacies has also been identified as a promising High-Impact Practice (HIP, 2013). A study in Uganda found that drug shops can provide injectable contraceptives to clients and that clients found drug shop owners to be respectful (Akol, 2014). One study in Nigeria found that PPMVs are already providing injectable contraceptives to clients but PPMV knowledge on injectable services is low since many have not received standardized training (Ajuwon, 2016).

Few studies have looked at the quality of services received by injectable contraceptive clients of PPMVs in Nigeria. This analysis looks at whether client and/or PPMV characteristics affect the quality of family planning counseling received by clients, measured by the Method Information Index (MII). Results will provide recommendations for how to improve quality of family planning counseling by PPMVs.

Methods:

Data were collected from 294 injectable contraceptive clients and 124 PPMVs in four states in Nigeria- Bauchi, Cross River, Ebonyi, and Kaduna- as part of a larger study to assess the feasibility and acceptability of PPMV provision of injectable contraceptives. PPMVs participated in a five-day training on family planning counselling for all available contraceptive methods, and counselling, sale, referral and administration of progestin-only injectable contraceptives (Depo-Provera, Noristerat, and Sayana Press). PPMVs were surveyed on their knowledge of progestin-only injectable contraceptives immediately before and after the training. PPMVs were authorized to administer injectable contraceptives to clients voluntary seeking injectable services from them for the duration of the study (nine months). For four months after the PPMV trainings, clients who were administered an injectable contraceptive and agreed to participate in the study were surveyed within 5-days of their first injection from a trained PPMV. Clients were asked a series of questions on their experience receiving injectable services from PPMVs and the quality of care received.

Data from the PPMV post-test survey and client first injection survey were merged. Multiple client respondents were clustered by the PPMV they saw. The outcome of interest came from the client interviews and was a dichotomous variable created for the MII. The variable was coded as 1 if a client reported the PPMV provided them with information about on all three of the following: 1) other family planning methods; 2) potential side effects of the injectable; and 3) what to do if they experience side effects. Two models were run. First, a logistic regression was run to examine the effect of client characteristics on the likelihood of receiving MII. Bivariate analyses were conducted with the outcome variable against covariates from the client surveys to determine which variables to include in the logistic regression. The covariates included were: *using a family planning method the day before visiting the PPMV, currently employed, religion, age, currently married, has three or more living children, education, and state.*

Secondly, a random-effects logistic model was run to account for any variance in the likelihood of receiving MII due to the PPMV. The same covariates included in the logistic model were included in the random-effects logistic model. Additional analyses will be explored before the conference to assess whether individual PPMV characteristics affect the likelihood of clients receiving MII.

Results:

Age	
25 and younger	27.9
26-35	52.7
35 and older	19.4
Religion	
Christian	56.5
Muslim	43.5
Marital status	
Never married	6.5
Married/in-union	90.8
Separated/Divorced/Widowed	2.7
Number of living children	
0	7.5
1	9.9
2	22.1
3	19.7
4+	40.8
Currently employed	51.4
Injectable method used	
DMPA-IM	51.4
DMPA-SC	21.8
NET-EN	17.7
Don't know	9.2

Table 1 display client characteristics at the time of the first injection survey. Most clients were age 26-35 (57%), were married (91%) and had at least one living child (92%). A little over half of clients identified as Christian (57%) and were employed (51%). The MII score (proportion of clients who received all three pieces of information during counseling) was 69% (data not shown).

Table 2 displays the results from the logistic and random-effects logistic models. Results from Model 1 suggest that using a contraceptive method before their first injection from a trained PPMV and employment status were significantly associated with the likelihood of receiving MII. Clients who were already using a family planning method were 42% less likely to receive MII compared to those who were not using a method (CI 0.34 – 1.00). Employed clients were almost twice as likely to receive MII compared to clients who were unemployed (CI 1.11 – 3.40). Age, marital status, having three or more children, and state were not significantly associated with the likelihood of MII.

In Model 2, 41% of the variance was accounted for by the PPMV who administered the injectable contraceptive. Employment status and using a family planning method before first injection were no longer significant. Clients who were 26-35 were 2.3 times more likely to receive MII than those 25 and younger (CI 0.99 – 5.44), although this finding was only marginally significant.

Table 2: Summary of the logistic and random-effects logistic regression models for predicting Method Information Index (N=294)				
	Model 1		Model 2	
	Odds ratio	Confidence Interval	Odds ratio	Confidence Interval
Was using a family planning method the day before receiving an injection	0.58*	0.34 – 1.00	0.56	0.27 – 1.15
Currently employed	1.91*	1.11 – 3.40	1.98	0.92 - 4.24
Are Christian	0.44	0.17 – 1.71	0.31	0.07 – 1.36
Age				
25 and younger	Ref.	-	-	-
26-35	1.83	0.96 – 3.47	2.32	0.99 - 5.44
35 and older	1.18	0.50 – 2.78	1.49	0.47 – 4.70
Education				
No formal education/Completed primary education	Ref.	-	-	-
Completed secondary education	1.66	0.88 – 3.13	1.68	0.72 – 3.93
Completed 2 years of college or more	1.13	0.54 – 2.37	0.97	0.35 – 2.64
Currently married/in-union	1.61	0.70 – 4.12	2.21	0.61 – 7.45
Has three or more children	1.32	0.69 – 2.50	1.13	0.49 – 2.64
State				
Bauchi	0.47	0.15 – 1.41	0.25	0.04 – 1.43
Cross River	Ref	-	-	-
Ebonyi	0.55	0.14 – 1.23	0.37	0.10 - 1.38
Kaduna	0.69	0.23 – 2.02	0.49	0.09 – 2.57
Rho	-	-	0.41	0.21 – 0.63

* P-value \leq 0.05

Discussion

Preliminary results suggest that over two-thirds of injectable contraceptive clients reported receiving all the information included in the MII. This is substantially higher than the average estimate for Nigeria 24% (FP2020, 2018). One explanation for this difference is that clients enrolled in the study were asked about the information they received from the PPMV within five days of their injection, whereas the national estimate is based on “ever receiving” that information when seeking family planning services. Clients who were employed were more likely to receive MII than those who were unemployed. One potential explanation is that PPMVs were more likely to counsel clients of perceived higher socio-economic status or that these clients were more likely to ask questions during the counseling session. Those who were already using family planning were less likely to receive MII. This may be because either the PPMV determined the client did not need counseling or the client refused counseling.

Results from the random-effects logistic model suggest, however, that almost half of the variance in whether a client received all the information in the MII was accounted for by the PPMV. Seven of the eight client characteristics did not predict the likelihood of MII and only age was marginally significant. These results suggest that likelihood of receiving MII may be more related to the provider than the client receiving injectable contraceptive services. Future analyses will look at whether individual PPMV characteristics predict the likelihood of MII.

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