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Women's reported satisfaction and quality of care at family planning visits: Levels, patterns, and correlates from client exit interview data in five countries

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Abstract

Client satisfaction is a simple measure to understand and improve quality of care, widely used in health care. However, the association between satisfaction and quality is poorly understood, primarily due to methodological limitations. Using new family planning client exit interview survey data, conducted by Performance Monitoring and Action in six low-resource settings of five countries, we examine reported satisfaction and its relationship with quality domains: providers' adherence to technical guidelines for contraceptive counseling (technical), communications with providers (experiential), and facility readiness to provide services (structural). Approximately 37% of clients in Rajasthan, India to 75% in Kano, Nigeria reported being "very satisfied". Adjusted results showed that higher experiential quality was positively correlated with satisfaction across study settings. Technical quality was positively related to satisfaction only in two countries, but facility readiness was not. Better interpersonal communications skills may improve client satisfaction, while ensuring technical quality of care in family planning services.

1. Introduction

Improving quality of care for family planning is an objective from both clinical and public health perspectives. High-quality family planning services are associated with two outcomes: informed choices to adopt their preferred methods; and sustained contraceptive use – either via one method used continuously or switching to another method. In addition, client satisfaction is a simple measure of quality, which has been widely used in the healthcare field to assess if and how services are meeting clients' expectations.

However, methodological limitations in collecting information on clients' satisfaction and quality of care have hindered exploration and optimal use of this data. In many surveys conducted in low-resource settings, courtesy bias, subjective benchmark of high-quality services, and limitations in questionnaire implementation, have resulted in near-universal reporting of satisfaction, diminishing its discriminatory value for examining factors that shape clients' service satisfaction. Additionally, inconsistencies and lack of standardized measures for assessing quality of care—spanning a range of dimensions across the Donabedian framework for quality of care (Donabedian, 1980) and a diverse set of parameters—have limited the ability of researchers and public health practitioners to understand and monitor levels of quality. Such challenges have resulted in poor understanding of the ways satisfaction is associated with aspects of quality. Understanding levels and correlates of client satisfaction is critical to improving quality of care in family planning programs.

This study examines satisfaction among family planning clients in low-resources settings, using new client exit interview (CEI) surveys conducted by Performance Monitoring and Action (PMA) in five countries: Burkina Faso, India (Rajasthan state), Kenya, Nigeria (Kano and Lagos states) and Uganda. Specific objectives are to (1) measure levels of self-reported satisfaction across settings and (2) examine associations between self-reported satisfaction and domains of quality of care – technical and experiential processes, and structure.

2. Data

2.1. Study settings

The study includes data from a total of six geographies in five countries, for which PMA public datasets are available as of August 31, 2021.[1] Table 1 presents select family planning statistics of the study settings. Modern contraceptive prevalence ranges from 8% in Kano, Nigeria, to 44% in Rajasthan, India. Among modern method users, the share of long-acting methods ranges from about 30% in Lagos, Nigeria, to 70% in Rajasthan, India.

2.2. PMA service delivery point and client exit interview surveys

2.2.1. Survey design

Data for this study come from the latest service delivery point (SDP) and client exit interview (CEI) surveys from PMA. SDP surveys have been conducted since 2012 to understand and monitor the service environment that is available for a representative sample of a population. The SDP samples are designed around enumeration areas selected for PMA's household surveys, initially developed to monitor family planning indicators at the population-level (Zimmerman et al., 2017). Eligible SDPs are formal health facilities – both public and private and ranging from primary to tertiary levels – as well as pharmacies. PMA has different sampling approaches for public and private facilities. For private facilities, PMA first conducts a listing of all private facilities in each EA and then randomly selects three for interviews. For public facilities, PMA then identifies the primary, secondary, and tertiary facilities that serve each EA (regardless of whether they are located within the EA), each of which is selected for interview. As a result, a maximum of six SDPs can be linked to an enumeration area but typically about three SDPs are linked per enumeration area. The most common type of SDP included in the survey varies, depending on health systems in each country. Primary-level public facilities are often the most common type, reflecting typical health facilities available at the population level. Surveyors – both PMA residential enumerators (Hawes et al., 2017) and their supervisors – typically interview facility managers to collect data on the availability of and readiness to provide family planning services. Detailed

[1] Datasets for Kinshasa and Kongo Central, DRC, are available. Due to a small number of eligible analysis sample sizes in both geographies, the data are excluded in this report.

information about the SDP survey design and implementation results are available elsewhere (Choi et al., 2019).

Since 2019, among select sites in the SDP surveys, CEI surveys have been implemented, with a systematic but convenient sample of clients visiting the SDPs. The interview aims to assess women's experience, providers' adherence to clinical guidelines (indirectly reported by women), and women's satisfaction during their visits. Considering implementation practicality and cost, CEIs are conducted only in moderate- to high-volume facilities. Based on the facility's average monthly family planning client volume collected in the SDP survey, moderate- to high-volume facilities refer to those serving on average 3-7 and 8 or more clients per day on average, respectively. Eligible clients are women 15-49 years of age who visited the SDPs for family planning services. To select women for an interview, PMA uses the FP client flow information from the SDP survey, which randomly selects a starting number for the first interview, and then selects every n^{th} woman afterwards, to yield up to about 5 CEI surveys per day for each facility. In each SDP, women are sampled and interviewed over the course of two days. Interviews were conducted by PMA resident enumerators.

2.2.2. CEI Questionnaire[2]

The client exit interview aims to assess two dimensions in quality of care – process of service provision and immediate client-reported outcomes (Donabedian, 1980). Process was assessed in two groups: providers' adherence to technical guidelines for contraceptive counseling (technical quality), and women's experience from interaction with providers, particularly focusing on communications (experiential quality) (Box 1). The technical quality questions were asked to only women who received contraceptives at the end of the visit or received a prescription, whereas the experiential quality questions were asked to all women.

Regarding immediate outcomes of the visit, three questions were used to assess directly reported satisfaction, willingness to recommend, and willingness to return. Of note, satisfaction was measured using a five-category scale. Patient reported outcome measurement is prone to courtesy bias, and, in surveys using a three-category scale (e.g., very satisfied, more or less satisfied, vs. not satisfied) (ICF

[2] PMA CEI questionnaire has evolved since its first round. This section is about the first set of CEI surveys conducted through mid 2020. The second phase questionnaires include a new set of ten questions to measure quality of contraceptive counseling (Johns Hopkins University, 2020).

International, 2014), 'very satisfied' is often universally reported. More detailed response categories enable further examination of satisfaction questions in this report.

2.2.3. Implementation

Table 2Table 2 presents the number of SDPs and clients interviewed. Total number of sampled SDPs varies by country. This is primarily because of the different number of enumeration areas for household surveys, which is largely due to different numbers of sampling strata and modern contraceptive prevalence. In addition, different health systems also contribute to the different number of SDPs linked to each enumeration area (Choi et al., 2019). As a result, the total number of SDPs surveyed ranges from 65 SDPs in Kano, Nigeria, to 945 SDPs in Kenya. Further, the average number of FP clients per facility varies substantially, from 2 in Rajasthan, India, to 7.5 in Kano, Nigeria. The resulting total number of family planning clients interviewed ranges from 394 in Rajasthan, India, to 3335 in Kenya.

However, disaggregated data by facility type (i.e., tertiary hospital, primary and secondary facilities, vs. pharmacies/shops) suggest that the sample may consist of different types of clients across settings. As expected, higher level SDPs tend to have higher service volume across most countries. However, the distribution of SDPs that provide family planning services varies, because of different health systems and service delivery models (Table 2Table 3). As a result, distribution of clients by facility type is different across countries. In Burkina Faso, Kenya, and Lagos, Nigeria, a clear majority of clients were interviewed at secondary or primary level facilities. However, in Rajasthan, Kano, and Uganda, only about 40% to 50% of clients were interviewed at lower-level facilities. The number of clients interviewed at pharmacies or drug shops is none or negligible.

Given that the PMA CEI sample is a systematic convenient sample, it is important to assess characteristics of the sample against those of representative FP clients. Such samples, however, are rarely available in the study settings. Thus, we compared PMA CEI samples against current method users from PMA household surveys. Of note, modern method users include permanent or long-acting reversible method users who started using the method potentially in the distant past and also condom users who might have obtained the method from pharmacies or shops. Thus, this should be taken into consideration when the comparison is made.

Figures 1-3 show percent distribution of clients and modern method users in terms of age, education, and contraceptive methods. In most sites, the CEI sample tended to be slightly younger and more educated than modern method users in general. However, in Rajasthan, where female sterilization is the most common method at the population-level (which were provided often in the substantial past), the CEI sample was considerably younger and more educated. In terms of method distribution, as expected, the percent share of male condoms was much lower than the share of male condoms at the population level. In most settings, long-acting reversible methods (either IUD or implants) and injectables consisted of the majority of methods that clients received. However, Rajasthan stood out again in terms of the difference between the CEI sample and general population: five methods (female sterilization, IUD (including postpartum IUD), injectables, pills, and male condoms) were more or less given evenly to clients. In conclusion, PMA CEI samples appear to be similar with the modern method users in most settings, based on age and education. As expected, the samples consist of women who received/referred for long-acting reversible methods and injectables.

3. Methods

3.1. Measurement

3.1.1. Outcome variable

Exploratory analysis suggested courtesy bias in questions with only binary repose options. Thus, the outcome of this analysis used only the satisfaction question. A dichotomous variable was constructed: reporting "very satisfied" out of the five-scale response, considering courtesy bias – hereinafter simply refers to satisfaction in this paper.

3.1.2. Independent variables

Sociodemographic and contraceptive use characteristics

Two categorical variables were constructed to measure women's sociodemographic characteristics: age (15-24, 25-34, 35-49 years) and highest school attended (primary/less, vs. secondary/higher). Contraceptive use status immediately before the visit was operationalized as: using the same method type as the one received on day of interview, using a different method type as the one received on day of interview, vs. not using any method. Type of methods is also measured: long-acting, vs. short-acting methods. Long-acting methods included both permanent and reversible methods (i.e., IUD and implants).

Technical quality: Reported content of counseling

Our first independent variable was technical quality, reflecting coverage of key information, per family planning guidelines, in counseling discussions. We measured the technical quality using four items reflecting the method information index plus (MII+), which has been widely used for monitoring informed choice in family planning (FP2020, 2015). After extensive exploratory data analysis, we decided to use a simple binary measure. Women were classified as receiving technical quality of care if they reported that their provider told them about: 1) other methods; 2) side effects; 3) what to do if she experiences side effects; and 4) switching. We conducted sensitivity analyses, using a continuous score variable to rank technical quality using responses to each technical quality question (Box 1). However, we sought to facilitate interpretation of results that are programmatically more relevant, and decided to use the simple dichotomous variable.

Experiential quality: Reported provider-client communication

Our second independent variable was experiential quality, reflecting the client's interpersonal relations with the provider and counseling support received during the family planning discussion. We measured experiential quality using three items about if the information received was "very clear" (five-point Likert scale; Box 1), the provider allowed her to ask questions (yes/no), and the provider answered questions in a way she understood, if allowed to ask questions (yes/no). We did not include the item reflecting perceived politeness of providers, because its programmatic implications can be too broad and was highly correlated with information clarity.

Structural quality: Facility readiness to provide family planning services

Our third independent variable was facility-level structural quality, which assessed the extent to which the facility was equipped to provide family planning services. We measured structural quality via a binary indicator reflecting the availability of select five contraceptive methods (i.e., IUD, implant, injectables (any type), pills, and male condoms) on the day of interview without any stock-outs in the past three months.[3] Current availability of the range of methods without recent stock out history indicates structural input for quality care, an insufficient but necessary condition to provide quality services.

[3] In Rajasthan, implant was excluded, since it is currently being introduced to the State.

3.2. Analysis

The unit of analysis was an individual client, and all analyses were conducted by survey. The analysis sample included only women who either received methods or prescription for methods at the end of the visit, given the questionnaire design (Box 1). Broadly three types of analysis were conducted.

- **Descriptive analysis to understand analysis sample characteristics**: To facilitate the results interpretation, given the CEI sample design, it is important to assess characteristics of clients for appropriate interpretation of the results, especially regarding generalizability. Ideally, we would compare characteristics of PMA client samples against representative samples of contraceptive users in the country. In the absence of such data, we compared age, education, and methods distributions among the analysis samples and those among women who currently use modern methods in PMA household surveys.
- **Descriptive analysis to understand level of various quality metrics**
- **Multivariate logistic regression analyses to understand factors associated with self-reported satisfaction**: We estimated the odds ratios of satisfaction, adjusted for background and contraceptive use characteristics of clients, technical and experiential process of services they received, and structural readiness at the facility they attended. We used random-effects logit models, considering multiple women interviewed at a SDP, on average ranging from 5 in Rajasthan to 16 in Kano. The provider's effect can be another level of clustering, but the PMA CEI surveys do not collect information about individual providers within a facility.

4. Results

4.1. Characteristics of clients

Table 4 presents characteristics of clients analyzed in the study. Across sites, 85% to nearly all clients were in union. About 50%-60% of clients were already using a method that was the same as the given/prescribed method.

4.2. Level of satisfaction and quality measures

Across countries, the percent of those who reported being "very satisfied" ranged substantially, from 37% in Rajasthan, India, to 75% in Kano, Nigeria. Figure 4 shows distributions of reported satisfaction

across the five categories. The combined level of being “very satisfied” or “satisfied” exceeds 95% in all settings, suggesting strong courtesy bias and confirming the need to apply a strict definition of satisfaction in analyses.

Both technical and experiential quality also ranged substantially (

Figure 5). Approximately 20% of clients in Burkina Faso to 65% in Kano reported their providers talked about the four select information items during the visit. From 20% of clients in Burkina Faso to 70% in Lagos reported that: their providers gave very clear information, allowed them to ask questions, and answered in a way they understood. In all settings, receiving very clear information was lowest among the three items (Figure 5). Finally, 40% of clients in Kenya to 80% in Rajasthan visited facilities that have the select five contraceptive methods currently in stock, without history of stock out in the past three months (third bar in Figure 6).

4.3. Quality correlates of client satisfaction

Error! Reference source not found. and Figure 7 present unadjusted and adjusted odds ratios of self-reported satisfaction. Consistently positive associations between experiential quality and satisfaction were observed across study settings. The relationships between other quality domains (technical and structural) and client satisfaction, however, were inconsistent. Across countries, women who reported higher experiential quality were more likely to report being "very satisfied" with services, with adjusted odds ratios ranging from 3.4 in Uganda (95% CI: 2.6-4.6) to 15.9 in Kano (95% CI: 8.2-30.8).

Technical quality (or the extent to which counseling included elements per family planning guidance) was also positively related with satisfaction in all setting, but the association was statistically significant only in Kenya (adjusted OR: 1.3, 95% CI: 1.04-1.7) and Uganda (adjusted OR: 1.5, 95% CI: 1.1-2.0) in the final full model. Structural quality (or the extent to which facilities were ready to provide family planning based on method stock) was not consistently or significantly associated with client satisfaction in any country.

5. Discussion

Using the new CEI data from PMA, this report assessed clients' reported satisfaction and its associations with other quality-of-care measures. When asked with a 5-scale question, women's report to be very satisfied is not universal and does have discriminatory value to examine factors that determine clients' satisfaction. Approximately 37% of clients in Rajasthan, India to 75% in Kano, Nigeria reported being very satisfied. Consistently across study settings, women who reported higher experiential quality (i.e., women who reported that their providers gave very clear information, allowed them to ask questions, and answered in a way they understood) were more likely to be very satisfied with the care. Technical

quality was positively related to satisfaction only in two countries, but facility readiness was not in any settings.

Our measure of experience is in fact focused on communications skills, which are underlying foundations to achieve all elements of person-centered, rights-based care. They include information exchange, interpersonal relations and respect (or lack of disrespect and abuse) (Holt et al., 2017; Karp et al., 2021). These dimensions of care collectively and ultimately support neutral, unbiased, and information-centered decision-making and respect women's method choice (Holt et al., 2017). Thus, its consistent and strong association with the outcome is understandable. Meanwhile, the inconsistent relationship between technical quality and the outcome across settings suggest that clients' satisfaction is not necessarily or directly affected by technical content of the counselling, when adjusted for the communications aspect of experience. This however should not be misinterpreted as technical elements being unimportant for high quality family planning services and care.

It has long been a challenge and inspiration to measure quality of care, giving direct programmatic implications and also achieving rights-based family planning (Bertrand et al., 1995; Hardee et al., 2014; Holt et al., 2017; Anrudh Jain et al., 1992; Aparna Jain et al., 2019), and PMA's new CEI data both expand availability of client data and contribute to the literature to measure quality of care. In spite of the systematic convenient sample design, PMA CEI samples reasonably mirror modern method users in each study setting – with an exception of Rajasthan, India, where female sterilization is the most prevalent method among users. In the first phase of the CEI surveys, various questions were employed to measure technical and experiential quality as well as client-reported subjective outcomes.

Of note, the data show importance of using Likert-scale questions to measure clients' perceptions that are subject to courtesy bias, as opposed to using dichotomous questions. In addition to the satisfaction question, information clarity and politeness also show more variation with the 5-scale questions (Figure 8). However, there is a disadvantage to administer a large number of such questions in face-to-face interviews in terms of interview fatigue for both respondents and interviewers. Therefore, use of Liker-scale questions should be selective, to achieve high-quality implementation of client exit interview surveys.

This study has limitations to be discussed. First, the analysis sample was restricted to those who received a method or prescription, because technical quality questions were asked to only women in the analysis sample. Across the six settings, 11% of clients were excluded from the analysis on average, however ranging from 3% in Rajasthan India and 22% in Lagos, Nigeria. It is possible that this section might have affected determinants of satisfaction assessed in this analysis. We compared the characteristics between those who were included in and excluded from the analysis (Table 6). Age and schooling were comparable between the two groups. Reported satisfaction was also comparable in most settings. But, in Uganda, those included in the analysis reported higher satisfaction (52% reported to be very satisfied), compared to their counterparts (45% reported to be very satisfied). In terms of communications, the experience was either comparable between the two groups or lower among those included in the analysis (Burkina Faso and Kano, Nigeria).

In addition, the large odds ratios by communication experience – even in bivariate analyses – raise potential issues in analysis such as sparse data bias (Greenland et al., 2016) in all settings but especially in Kano, Nigeria.

Table 7 shows the number of clients by the outcome and the communication measure. The cross tabulation shows no cells that are empirically too small to study simple associations. We also used multilevel mixed-effects generalized linear models (using 'meglm' in Stata) (Stata Corp, n.d.), and the results were qualitatively similar. Nevertheless, we believe the odds ratio estimates are implausibly inflated (especially in Kano), and the results interpretation should focus on presence and direction of significant associations, rather than the effect size.

In conclusion, using new family planning client exit interview survey data, conducted by Performance Monitoring and Action in six low-resource settings of five countries, we examined reported satisfaction and its relationship with quality domains. When measured with a 5-scale question, client satisfaction provided discriminatory value. Approximately from 37% of clients in Rajasthan, India to 75% in Kano, Nigeria reported being very satisfied. Consistently across study settings, women who reported higher experiential quality (i.e., women who reported that their providers gave very clear information, allowed them to ask questions, and answered in a way they understood) were more likely to be very satisfied with the care. Technical quality was positively related to satisfaction only in two countries, but facility readiness was not in any settings. Improving provider's communications skills for counseling may result in higher client satisfaction, in addition to supporting women's method choice and positive clinical outcomes such as continuation and switching as needed.

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Table 1. Modern contraceptive prevalence and share of long-acting methods among all women in study countries

Country/geography, survey year	Current use of any modern contraceptive method (among all women) (%)	Current use of long-acting contraceptive method (among all women) (%)	Percent of long-acting methods among all modern methods (%)
Burkina Faso, 2020	26	13	51
India, Rajasthan, 2020	44	31	70
Kenya, 2019	43	20	47
Nigeria, Kano State, 2020	8	3	42
Nigeria, Lagos State, 2020	25	7	28
Uganda, 2020	29	12	41

Source: PMA DataLab. https://datalab.pmadata.org/
Long-acting methods include both permanent and long-acting reversible methods (i.e., IUD and implants).

Table 2. The number of SDPs and family planning clients interviewed among all facilities by survey

Survey	Total number of SDPs	Total number of SDPs that provide FP services	*Average number of FP clients served per day per facility*	Total number of SDPs where CEI was conducted with FP clients	Total number of FP clients interviewed
Burkina Faso, 2020	234	222	*2.7*	77	669
India, Rajasthan, 2020	574	507	*2.0*	76	394
Kenya, 2019	945	926	*5.7*	441	3335
Nigeria, Kano, 2020	65	54	*7.5*	31	536
Nigeria, Lagos, 2020	127	112	*2.9*	41	427
Uganda, 2020	349	333	*4.6*	152	2096

Table 3. The number of SDPs and family planning clients interviewed by survey and facility type

Survey and facility type	Total number of SDPs	Total number of SDPs that provide FP services	*Average number of FP clients served per facility*	Total number of SDPs where CEI was conducted with FP clients	Total number of FP clients interviewed
Burkina Faso, 2020					
Hospitals	20	20	*1.7*	4	18
Secondary and primary	196	186	*3.1*	72	644
Pharmacies/shops	18	16	*0.0*	1	7
India, Rajasthan, 2020					
Hospitals	42	41	*14.3*	31	170
Secondary and primary	327	272	*1.3*	42	216
Pharmacies/shops	205	194	*0.7*	3	8
Kenya, 2019					
Hospitals	98	98	*10.2*	93	890
Secondary and primary	765	752	*5.8*	348	2445
Pharmacies/shops	82	76	*0.0*	0	0
Nigeria, Kano, 2020					
Hospitals	17	17	*21.3*	17	325
Secondary and primary	29	26	*4.4*	14	211
Pharmacies/shops	19	11	*0.0*	0	0
Nigeria, Lagos, 2020					
Hospitals	32	26	*3.8*	15	161
Secondary and primary	65	60	*3.7*	26	266
Pharmacies/shops	30	26	*0.0*	0	0
Uganda, 2020					
Hospitals	114	114	*8.8*	88	1327
Secondary and primary	164	162	*3.7*	64	769
Pharmacies/shops	71	57	*0.3*	0	0

Box 1. Client exit interview questions in PMA CEI surveys

Questions	Response options	Eligible respondents
Women's recall on providers' adherence to contraceptive counseling guidelines		
216. During your visit today, for the method you were prescribed or given, did the provider: a. Explain how to use the method? b. Talk about possible side effects? * c. Tell you what to do if you have problems? * d. Tell you when to return for follow-up?	• Yes • No	FP clients who received FP methods or prescription
217. During your visit today, did the provide: a. Tell you about contraceptive methods other than the method you were given or prescribed? * b. Talk about the methods that protect against HIV/AIDS and STIs? c. Ask about your family planning method preference? d. Tell you that you could switch to a different method in the future? *	• Yes • No	FP clients who received FP methods or prescription
221. During your visit today, were you told by the provider about advantages and disadvantages with a method to delay or avoid pregnancy?	• Yes • No	All FP clients
Women's experience reflecting providers' interpersonal skills		
218. How clear was the family planning information you received today? *	• Very clear • Clear • Somewhat clear • Not clear • Not at all clear	All FP clients
219. Did the provider allow you to ask questions? *	• Yes • No	All FP clients
220. Did the provider answer all your questions in a way you understand? *	• Yes • No	FP clients who reported her provider allowed her to ask questions
301. During this visit did the provider and other staff treat you very politely, politely, neither politely nor impolitely, impolitely, or very impolitely?	• Very politely • Politely • Neither politely nor impolitely • Impolitely • Very impolitely	All FP clients
Women's satisfaction		
301. Overall, how satisfied are you with the family planning services you received at this establishment today? Would you say very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied? *	• Very satisfied • Satisfied • Neither satisfied nor dissatisfied • Dissatisfied • Very dissatisfied	All FP clients
303. Would you refer your relative or friend to this facility?	• Yes • No • Do not know	All FP clients
304. Would you return to this facility?	• Yes • No • Do not know • No response	All FP clients

Note: Questionnaire numbers are from Kenya CEI survey 2019.
*Questions used in the report.

Table 4. Characteristics of family planning clients included in analysis (%): by survey

	Burkina Faso	India, Rajasthan	Kenya	Nigeria, Kano	Nigeria, Lagos	Uganda
Analysis sample size	522	382	3213	500	332	1880
Age (years)						
15-19	6	2	7	3	1	8
20-24	26	25	27	26	5	32
25-29	26	41	26	26	20	26
30-34	21	21	20	20	31	17
35-39	12	10	11	16	23	11
40-44	7	2	6	7	13	4
45-49	2	0	3	2	7	1
Highest school ever attended						
None	43	20	3	20	1	4
Primary school	21	23	43	17	8	53
Secondary school	33	25	36	47	48	35
College or more	2	31	19	16	44	9
Marital status						
Married or co-habiting	89	99	84	99	97	87
Method use status before the visit						
Not using any method	20	30	16	34	23	23
Using a method, but different from what received at the visit	22	18	26	15	15	27
Using a method same with what received at the visit	58	52	59	50	62	49

Figure 1. Comparison of age-distribution between clients and women using modern methods: by survey

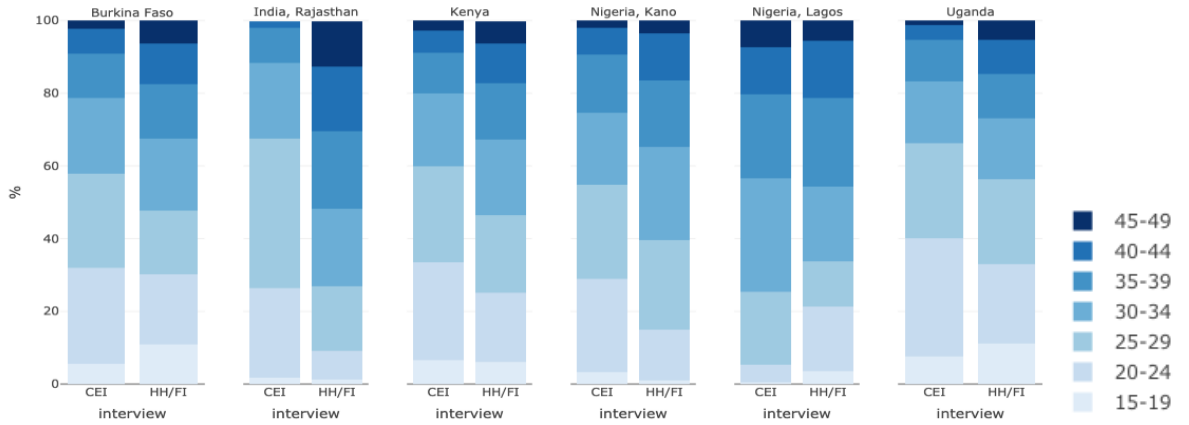


Figure 2. Comparison of education-distribution between clients and women using modern methods: by survey

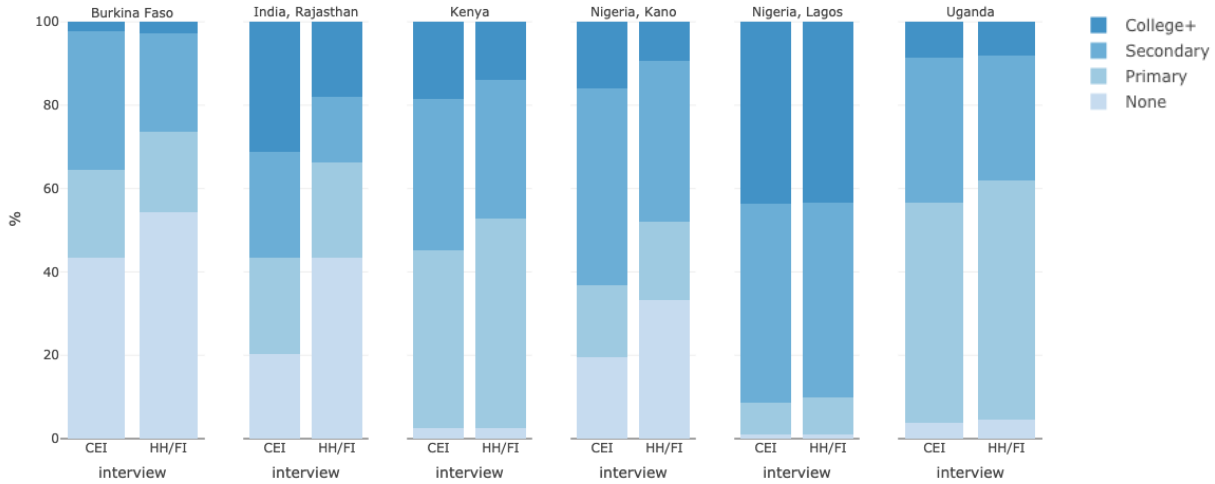


Figure 3. Comparison of method-distribution between clients and women using modern methods: by survey

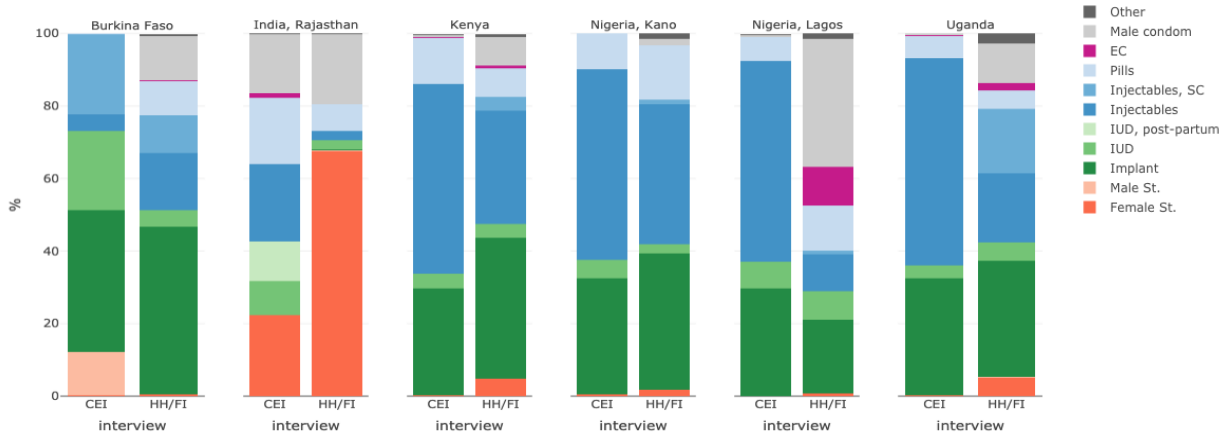


Figure 4. Distribution of reported satisfaction in the five-scale response by survey

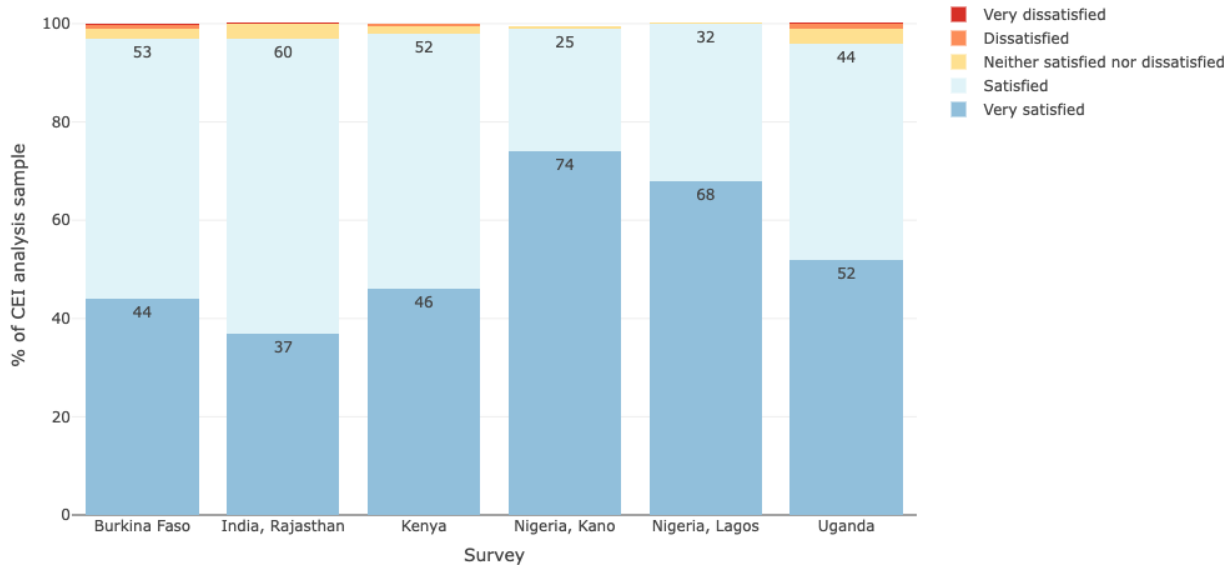


Figure 5. Levels of technical and experiential quality by survey

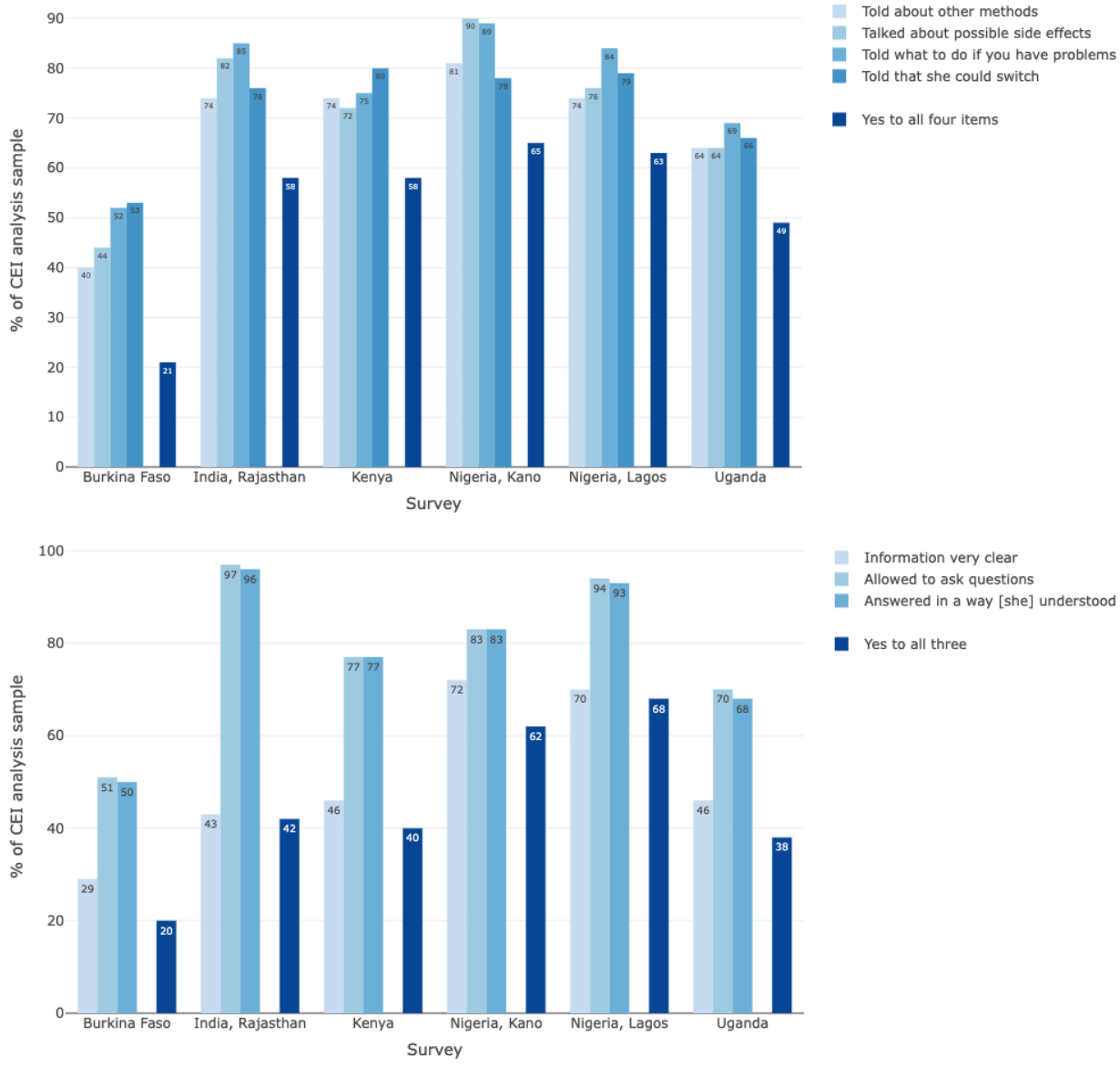
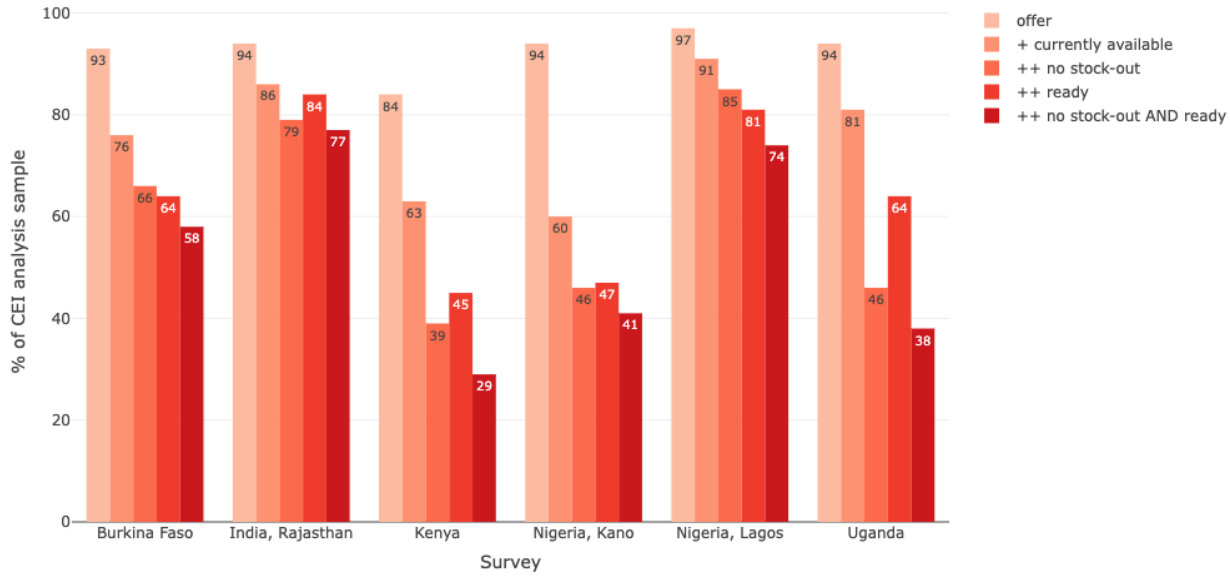


Figure 6. Levels of facility-level structural quality by survey



Offering select five methods (IUD, implant, injectables, pills, and condoms)
+: in addition to offering the five methods
++: in addition to offering the five methods and all of the five methods are available

Figure 7. Adjusted odds ratio of reporting "very satisfied" and 95% confidence internal, multivariate logistic regression analyses results by survey

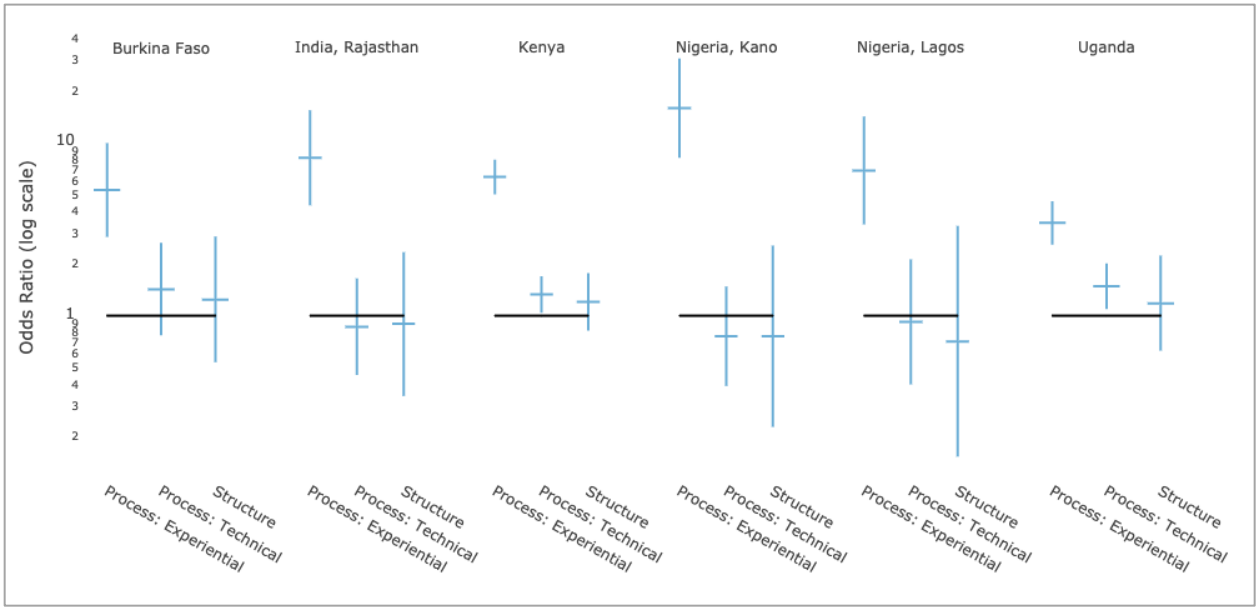


Table 5. Odds ratio of reporting to be very satisfied: bivariate and multivariate regression analyses by survey

Variables	Bivariate models[4]						Multivariate model with three quality covariates						Multivariate model with all covariates					
	Burkina Faso	India, Rajasthan	Kenya	Nigeria, Kano	Nigeria, Lagos	Uganda	Burkina Faso	India, Rajasthan	Kenya	Nigeria, Kano	Nigeria, Lagos	Uganda	Burkina Faso	India, Rajasthan	Kenya	Nigeria, Kano	Nigeria, Lagos	Uganda
Age (years)																		
15-24													0.66	0.56	1.10	1.00	0.51	0.98
													(0.380 - 1.156)	(0.280 - 1.126)	(0.872 - 1.380)	(0.506 - 1.974)	(0.133 - 1.972)	(0.748 - 1.291)
25-34 (reference)													-	-	-	-	-	-
35-49													1.43	0.52	1.13	0.67	1.31	1.06
													(0.804 - 2.561)	(0.214 - 1.273)	(0.869 - 1.480)	(0.343 - 1.310)	(0.655 - 2.602)	(0.738 - 1.511)
Education: highest school attended																		
Secondary or higher (reference: none or primary)													1.29	0.81	0.94	1.63	1.44	1.01
													(0.775 - 2.131)	(0.435 - 1.493)	(0.760 - 1.169)	(0.888 - 3.001)	(0.451 - 4.586)	(0.777 - 1.325)
Method use status, just before the visit																		
Using methods, same with method received (reference)													-	-	-	-	-	-
Using methods, but different from method received													0.88	0.97	0.79*	0.77	0.84	0.78
													(0.481 - 1.626)	(0.430 - 2.168)	(0.615 - 1.011)	(0.347 - 1.704)	(0.324 - 2.183)	(0.564 - 1.081)
Not using any methods													0.74	0.44**	0.69**	0.79	3.64**	0.68**
													(0.383 - 1.442)	(0.200 - 0.979)	(0.514 - 0.939)	(0.391 - 1.592)	(1.313 - 10.107)	(0.481 - 0.956)
Type of method received/prescribed																		
LARC (reference: non LARC methods)													1.08	1.29	1.19	1.70	1.28	1.72***
													(0.650 - 1.809)	(0.487 - 3.407)	(0.936 - 1.510)	(0.892 - 3.240)	(0.578 - 2.818)	(1.278 - 2.322)
Experiential process: all three communications items [1]																		
Yes (reference: No)	6.06***	7.63***	6.67***	14.52***	6.95***	3.99***	5.31***	7.82***	6.27***	15.32***	6.80***	3.52***	5.34***	8.20***	6.35***	15.89***	6.92***	3.44***
	(3.409 - 10.784)	(4.195 - 13.887)	(5.338 - 8.326)	(7.750 - 27.185)	(3.514 - 13.751)	(3.042 - 5.224)	(2.890 - 9.770)	(4.248 - 14.408)	(4.994 - 7.877)	(8.074 - 29.082)	(3.405 - 13.570)	(2.645 - 4.674)	(2.859 - 9.980)	(4.355 - 15.421)	(5.043 - 8.008)	(8.197 - 30.821)	(3.370 - 14.220)	(2.576 - 4.600)
Technical process: all four technical items [2]																		
Yes (reference: No)	2.17***	1.33	2.05***	1.21	1.72	2.29***	1.34	0.96	1.33**	0.75	1.19	1.49***	1.42	0.86	1.33**	0.76	0.92	1.48**
	(1.271 - 3.720)	(0.671 - 2.620)	(1.618 - 2.591)	(0.704 - 2.084)	(0.796 - 3.712)	(1.725 - 3.039)	(0.739 - 2.447)	(0.512 - 1.792)	(1.042 - 1.687)	(0.394 - 1.413)	(0.549 - 2.584)	(1.104 - 2.021)	(0.769 - 2.639)	(0.454 - 1.646)	(1.041 - 1.693)	(0.392 - 1.476)	(0.401 - 2.117)	(1.091 - 2.009)
Structure: facility ready to provide essential five methods [3]																		
Yes (reference: No)	1.25	1.00	1.26	0.97	0.68	1.34	1.18	0.79	1.21	0.77	0.71	1.19	1.24	0.90	1.20	0.76	0.71	1.18
	(0.533 - 2.954)	(0.263 - 3.777)	(0.800 - 1.985)	(0.310 - 3.031)	(0.136 - 3.355)	(0.676 - 2.645)	(0.525 - 2.667)	(0.304 - 2.036)	(0.825 - 1.768)	(0.235 - 2.499)	(0.168 - 3.032)	(0.634 - 2.219)	(0.538 - 2.869)	(0.344 - 2.332)	(0.819 - 1.762)	(0.227 - 2.544)	(0.153 - 3.310)	(0.628 - 2.226)
Number of clients	583	382	3,213	500	332	1,880	522	382	3,213	500	332	1,880	522	382	3,213	500	332	1,880

Confidence interval in parentheses. *** p<0.01, ** p<0.05, * p<0.1

1. Information was very clear, she was allowed to ask quesitons, AND answers were provided in a way understandable
2. MII+plus
3. Facilities have specific five methods (IUD, implant, injectables, pills and male condom) currently in stock, had no stock-out in the past three months, and are ready to provide/remove LARC
4. Three bivariate model, each with one quality indicator.

Figure 8. Distribution of information clarify and provider politeness measured with the five-scale questions by survey

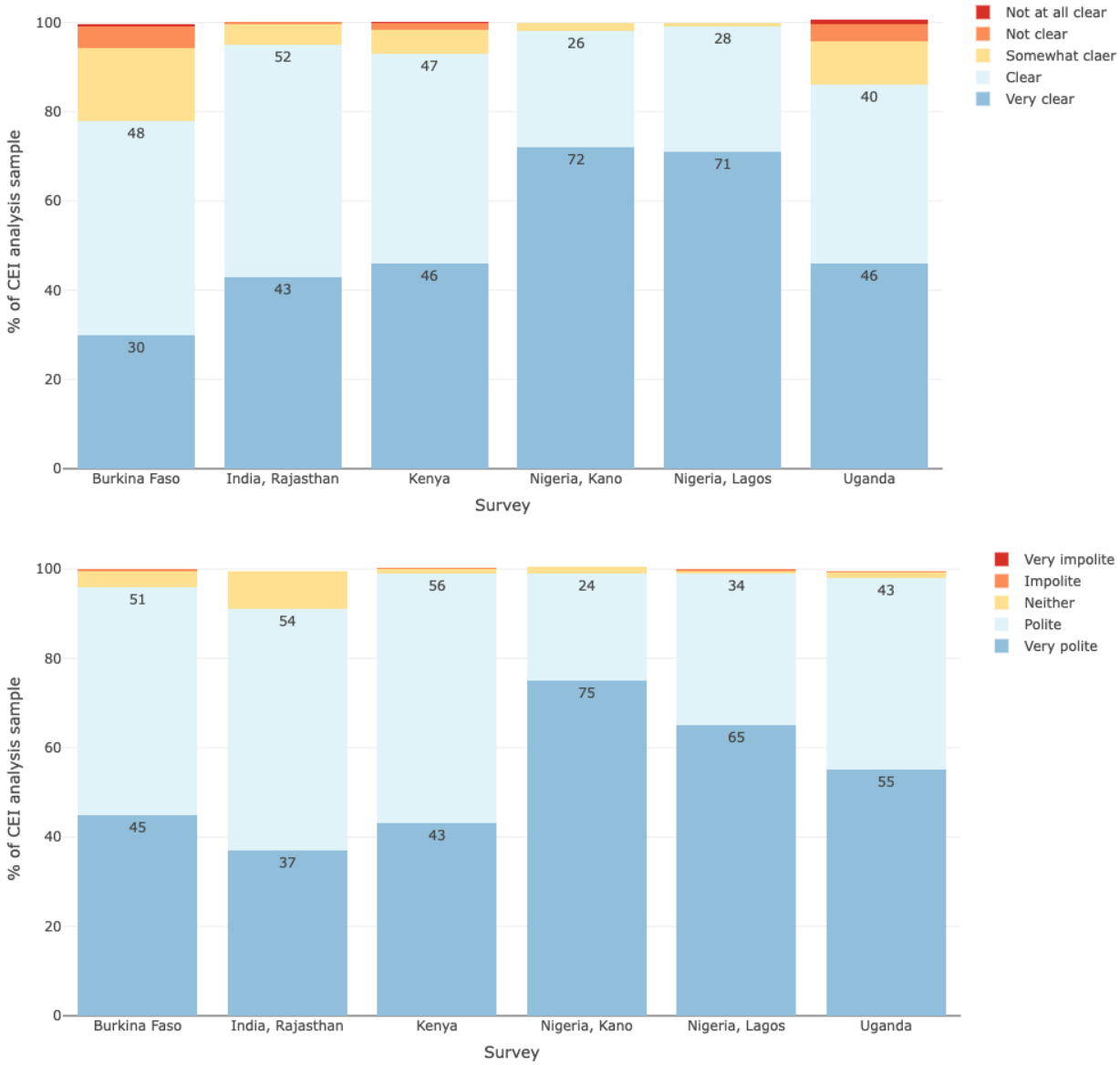


Table 6. Comparison of background characteristics, experience and satisfaction by analysis sample inclusion status.

		Background characteristics		Quality of care			
	Number of clients	Age (mean, years)	Attended primary school or more (%)	Affirmed all three communications items (%)		Reported to be very satisfied (%)	
Burkina Faso							
Excluded	159	28	54	33		46	
Included	583	29	57	20	***	44	
India, Rajasthan							
Excluded	12	27	75	67		42	
Included	382	28	80	42	*	37	
Kenya							
Excluded	122	29	98	42		39	
Included	3213	29	97	40		46	
Nigeria, Kano							
Excluded	36	30	81	86		69	
Included	500	29	80	62	***	74	
Nigeria, Lagos							
Excluded	95	35	97	73		67	
Included	332	34	99	68		68	
Uganda							
Excluded	216	27	94	43		45	**
Included	1880	27	96	38		52	

P-value for T-test (age) or Chi-squared test: *** p<0.01, ** p<0.05, * p<0.1

Table 7. Number of clients by outcome and the communication measure

	Affirmed all three communication items	
	No	Yes
Burkina Faso		
Not vary satisfied	300	27
Very satisfied	164	92
India, Rajasthan		
Not vary satisfied	186	55
Very satisfied	35	106
Kenya		
Not vary satisfied	1409	322
Very satisfied	516	966
Nigeria, Kano		
Not vary satisfied	97	31
Very satisfied	93	279
Nigeria, Lagos		
Not vary satisfied	69	39
Very satisfied	38	186
Uganda		
Not vary satisfied	732	169
Very satisfied	433	546