

## ORIGINAL RESEARCH ARTICLE

# Quality of Spousal Relationship on Procurement of Abortion in Peri-Urban Nigeria

Abimbola Phillips<sup>1,2</sup>, Adesegun O. Fatusi<sup>1,3</sup>, Akanni I Akinyemi<sup>\*1,4</sup> and Bamidele Bello<sup>1</sup>.

<sup>1</sup>Population & Reproductive Health Programme, College of Health Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria; <sup>2</sup>Department of Community Health, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria; <sup>3</sup>Department of Community Health, College of Health Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria; <sup>4</sup>Department of Demography & Social Statistics, Faculty of Social Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria.

\*For Correspondence: E-mail: akakanni@yahoo.ca; Phone: +2348033816486

## Abstract

The quality of spousal relationship may influence the acceptance of the status of pregnancies and the decision to procure abortion; however, this relationship has largely been unexplored. The objective of this paper is to assess the influence of specific dimensions of relationship quality on abortion procurement. Data from the 2010 Family Health and Wealth Survey site were used to assess the association between relationship quality and induced abortion among 763 ever-pregnant married or cohabiting women in Ipetumodu, South-west Nigeria. Abortion question though not directly related to current time, however, it provides a proxy for the analysis in such context where abortion is highly restrictive with high possibility of underestimation. The association between relationship quality and abortion risk was analyzed using bivariate and multivariate (logistic regression) methods. Only 7.9% of women 15-49 years reported ever having induced abortion. Communication was the only dimension of relationship quality that showed significant association with history of induced abortion (aOR=0.42; 95% C.I. =0.24-0.77). The paper concludes that spousal communication is a significant issue that deserves high consideration in efforts to improve maternal health in Nigeria. (*Afr J Reprod Health 2015; 19[4]: 14-22*).

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**Keywords:** Induced abortion, Spousal communication, Nigeria, relationship-quality.

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## Résumé

La qualité de la relation conjugale peut influencer l'acceptation de l'état de grossesse et la décision d'avorter, mais cette relation a été en grande partie inexplorée. L'objectif de cet article est d'évaluer l'influence des dimensions spécifiques de la relation de qualité sur l'obtention de l'avortement. Les données provenant de l'enquête sur la santé et la richesse familiale de 2010 ont été utilisées pour évaluer l'association entre la qualité de la relation et l'avortement provoqué chez auprès des 763 femmes mariées et qui sont jamais enceintes ou vivant en concubinage à Ipetumodu au sud-ouest du Nigeria. Bien que les problèmes de l'avortement ne soient pas directement liée à l'heure actuelle, cependant, il fournit un proxy pour l'analyse dans un tel contexte où l'avortement est très restrictif avec une forte possibilité de sous-estimation. L'association entre la qualité de la relation et le risque de l'avortement a été analysée en utilisant les méthodes bivariées et multivariées (régression logistique). Seulement 7,9% des femmes ayant 15-49 ans ont déclaré avoir jamais eu l'avortement provoqué. La communication était la seule dimension de la qualité de la relation qui a indiqué une association significative avec l'histoire de l'avortement provoqué (ORa = 0,42; IC à 95% = 0,24 à 0,77). Le document conclut que la communication entre époux est un problème important qui mérite une haute considération dans le but d'améliorer la santé maternelle au Nigeria. (*Afr J Reprod Health 2015; 19[4]: 14-22*).

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**Mots clé :** avortement provoqué, communication entre époux, Nigeria, relation, qualité.

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## Introduction

Unsafe abortion is a leading cause of maternal mortality, particularly in low- and middle-income countries. Whereas unsafe abortion accounts for about 4% of maternal deaths in Europe, it accounts for an estimated 14% of maternal deaths in Africa<sup>1</sup>. In 2008, an estimated 21.6 million unsafe abortions took place globally, with more than 98% of them occurring in developing countries<sup>1</sup>. Compared to

90 abortion-related deaths in developed countries, 46,000 abortion-related deaths are believed to have taken place in developing countries in 2008, with 29,000 taking place in Africa<sup>1</sup>. More than 97% of abortions in Africa are unsafe<sup>2</sup>. Reducing the incidence of unintended and unwanted pregnancy is vital in reducing the likelihood of unsafe abortion and, consequently, maternal mortality. In Nigeria, although abortion is illegal and highly restrictive to situations when there are medical

evidence of threat to mother's life, yet the annual cases of induced abortion may currently be more than one million a year<sup>3</sup>. Unsafe abortion contributes about 11% of maternal deaths in Nigeria<sup>4</sup>. The "wantedness" of a pregnancy or otherwise is believed to be associated with the type and quality of the relationship between the couple involved. In the same vein, the decision to resolve an unwanted pregnancy involves the couple's connection to each other<sup>5</sup>. Spanier and Lewis defined marital quality as "the subjective evaluation of a married couple's relationship on a number of dimensions and evaluations<sup>6</sup>". Prominent dyadic dimensions of couple's relationship which have been studied include commitment<sup>7</sup>, trust<sup>8</sup>, satisfaction<sup>9</sup> and communication<sup>10</sup>. Coleman suggested that length of relationship; commitment, trust, and open communication are factors which may play a role in the association between abortion and relationship quality<sup>5</sup>. Bankole and colleagues also adduced relationship problems with a husband or partner as an important factor that influences the procurement of abortion by women<sup>11</sup>. Thus, it could be argued that a woman's desire to have a baby with her partner may not be fixed, but rather subject to change over time depending on the quality of the relationship and life circumstances. For some individuals, as Higgins and colleagues have pointed out, "the perceived emotional and sexual benefits of conception may outweigh the goal of averting conception, even when a child is not wholly intended"<sup>12</sup>. On the other hand, women in unpredictable relationships may be less likely than others to plan sexual intimacy and, often times, may not be prepared with a family planning method<sup>13</sup>, therefore having greater risk of unintended pregnancy; Consequently, they are at greater risk of abortion.

Induced abortion is widely used as a means for achieving desired number of children and for birth timing<sup>13</sup>. Correlates of induced abortion have been widely studied and published. A 27-country study, for example, showed that a woman's decision to procure an abortion is associated with a number of demographic and socioeconomic characteristics<sup>11</sup>. According to Bongaarts and Westoff<sup>14</sup>, these characteristics influence the decision to abort mainly through three factors: the

probability of having an abortion in the event of contraceptive failure, fertility preference and effective contraceptive method use. A study conducted in Asia, Africa, and Latin America found that for developing regions as a whole, two-thirds of unsafe abortions occur among women aged 15-30 and 14% among women below 20 years<sup>15</sup>. However, the role of the quality of spousal relations in abortion inducement has not received significant attention in the literature.

Also, while some studies have examined the effect of abortion on spousal relationship quality<sup>16-18</sup> the reverse role played by spousal relationship quality in the decision to procure induced abortion has scarcely been explored, particularly in African population. In order to address the challenge of increasing abortion procurement in Nigeria, there is the need to understand, the primal aspects of spousal relationship which are related to, and are likely to influence, the decision to have an induced abortion. The key research question of interest therefore is to understand to what extent is the quality of relationship a determinant of the risk of exposure induced abortion. The proposition is that high quality of relationship among spouses is less likely to expose women to the risk of procuring induced abortion

## Methods

This study is based on the secondary analysis of the baseline data from one of the two Nigerian sites for the Family Health and Wealth Study (FHWS) – Ipetumodu, a peri-urban community located in Osun State, South-West Nigeria. The FHWS is a multi-country longitudinal study in nine different sites in China, Egypt, Ethiopia, India, Ghana, Malawi, Nigeria, and Uganda. The present analysis is based on 763 women ever pregnant, married or living together with their partners that were interviewed. The women were 15-49 years of age, and their spouses 18-59 years.

The relationship quality instrument has measures of four dimensions of marital quality – trust, commitment, satisfaction and communication – derived from extant scales. The measure for "trust" was derived from Larzelere's trust scale<sup>8</sup>, measure of "commitment" from Sternberg's commitment scale<sup>7</sup>, measure of "satisfaction" from

Spanier's satisfaction scale<sup>9</sup> and measure of "communication" from Heavey's constructive communication scale<sup>10</sup>. The relationship quality scale has been validated in some other settings in Africa including the multi-country sites for the project with similar characteristics. Although this is structure in the context of western culture, it is however relevant in Nigeria context.

### ***Outcome measure***

The main outcome of interest is having ever had an abortion. This was obtained from the response to the question in the female questionnaire: "How many induced abortions have you had?" Women who had at least one abortion were grouped as "Ever had abortion", and otherwise "Never had abortion".

### ***Main Explanatory Variables***

The main explanatory variables are four dimensions of marital quality, namely: trust, commitment, satisfaction and communication. Factor analysis was done to check the factor structure of original scales in order to identify items to remain in the final scales. The choice of the number of factors to extract was based on the Scree plot, and factor rotation was done using the Varimax method. Items with loadings less than 0.4 were eliminated. The Internal consistency and reliability of the final scales was measured by Cronbach's Coefficient Alpha; the result ranged from 0.69-0.96 (Table 1).

### ***Covariates***

These include woman's education, educational difference among couples, wealth-index – computed from household assets using principal component analysis<sup>19</sup>. employment status for each partner, parity, age-difference among couples, woman's age, duration of relationship, religion, gravidity, whether the couples wanted more children or not, number of children desired by each partner, preference for more male children for each partner, and contraceptive use.

## **Data Management**

Multiple Imputation by Chained Equations (MICE) method was employed to manage variables with missing values, using an implementation of MICE in STATA<sup>20</sup>. Non-responses were assumed to be missing at random (MAR), thus the missing mechanism of the data was ignorable<sup>20-22</sup>.

### ***Statistical Analysis***

Univariate analysis was carried out to explore the data, while bivariate associations were assessed using chi-squared test and Student t-test or Analysis of variance. Spearman correlation was used to check for highly correlated independent variables in order to avoid multi-collinearity. The individual and combined effects of the four dimensions of relationship quality on abortion risk were analyzed using five logistic regression models, adjusting for covariates with the exception of gravidity and length of relationship as they both correlated highly with parity (0.64 and 0.62 respectively).

## **Results**

### ***Descriptive Analysis***

Table 2 shows the description of the study participants by their background characteristics. Almost half (45.9%) of the women were between the age of 25 and 34 years while only 95 (12.5%) were less than 25 years; the mean age was  $32.1 \pm 7.0$  years standard deviation. Majority of the women (426; 55.8%) had at least secondary education, and about two-thirds of the women (501; 65.7%) had similar level of educational background as their partners. Only 84 (11.1%) of the women were salaried workers. The mean duration of relationship was  $10.6 \pm 7.24$  years (median=10 years) and the mean spousal age difference was 7 years,  $\pm 5.00$  years (median=6 years).

### ***Bivariate and multivariate analyses***

The result of bivariate analysis showed no statistical relationship between abortion experience

**Table 1:** Relationship Scales; Item Contents of Scales and Factor Loadings According to Husbands and Wives

Scale name	Item contents	Factor loadings (Husbands)	Factor loadings (Wives)
<b>Commitment</b> (Cronbach's $\alpha$ : Husbands scale = 0.86; Wives scale = 0.90)	Expect love for partner to last for life	0.628	0.812
	Can't imagine ending my relationship with partner	0.765	0.901
	Committed to maintaining my relationship	0.816	0.819
<b>Trust</b> (Cronbach's $\alpha$ : Husbands scale = 0.82; Wives scale = 0.87)	Have confidence in stability of my relationship	0.814	0.785
	My partner is perfectly honest and truthful with me	0.724	0.798
	Feel I can trust partner my completely	0.795	0.866
	My partner is truly sincere in his promises	0.715	0.811
	My partner treats me fairly and justly	0.682	0.647
<b>Satisfaction</b> Cronbach's $\alpha$ : Husbands scale = 0.70.; Wives scale = 0.78)	I feel that my partner can be counted on to help me	0.536	0.655
	Often discuss or considered divorce or separation	0.514	0.58
	Often leave the house after a fight	0.395	0.428
	Often think that things are going well with partner	0.389	0.503
	Confide in partner	Not used (low loading)	0.521
	Ever regret married/living together	Not used (low loading)	0.596
	Often quarrel with partner	0.474	0.596
	Often get on each other's nerves	0.586	0.586
	Rate how happy you are in the relationship	0.638	0.596
	Rate feelings about future of relationship	0.610	0.512
<b>Communication</b> Cronbach's $\alpha$ : Husbands scale = 0.80.; Wives scale = 0.84)	We try to discuss the problem *	0.809	0.909
	We express our feelings to each other*	0.820	0.942
	We suggest possible solutions and compromises*	0.780	0.903
	We blame, accuse and criticize each other I	0.555	0.712
	We threaten each other with negative consequences I	0.664	0.681
	Call my partner names, swear at partner or attack partner's character I	0.867	0.917
	Partner calls me names, swears at me or attacks my character I	0.850	0.892

\*Constructive communication subscale - Cronbach's  $\alpha$  for husbands and wives are 0.87 and 0.95, respectively  
 I Destructive communication subscale - Cronbach's  $\alpha$  for husbands and wives are 0.80 and 0.87, respectively  
 Communication scale obtained by subtracting destructive from constructive subscale

and any of the socio-demographic characteristics of interest (Table 3), but parity ( $p=0.03$ ) and gravidity ( $p=0.01$ ) were reproductive characteristics with significant association with abortion (Table 4). Majority of the partners rated high for each of the dimensions of the quality of relationship – 68.7% for commitment, 68.8% for trust, 60.7% for satisfaction and 70.8% for

communication. Trust had a significant and positive association with abortion at the bivariate level ( $p=0.001$ ). Communication also had a significant relationship with abortion experience at bivariate level ( $p<0.001$ ): A greater proportion (72.8%) of those who have never had abortion reported high communication compared to their counterparts (50.0%). The two variables – trust and

communication – also showed significant relationship with abortion experience in the initial multivariate analyses when the four dimensions of quality were individually entered into the logistic model (models 1-4) with adjustment for socio-demographic and reproductive characteristics – trust (adjusted odds ratio [aOR]= 0.48; 95% C.I.= 0.27-0.84); communication (aOR = 0.38; 95% C.I.=0.21-0.67) (Table 6). However, in the final

significant association with abortion procurement. Studies on marital relationship quality in Nigeria hardly exist in peer-reviewed literature. On the other hand, while a number of studies on abortion have been conducted in Nigeria, these are mostly hospital-based: household surveys on abortion-related studies are quite rare<sup>3</sup>. The prevalence of 7.9% recorded for induced abortion in our study is lower than that reported from most other Nigerian studies. For example, a community-based study conducted in eight states in Nigeria in 2002-2003 reported a prevalence of 10%<sup>23</sup>, while a 2010 study in Lagos reported prevalence as high as 30% with regards to the proportion of women who had ever had an induced abortion<sup>24</sup>. Two major factors may account for our lower figure. Firstly, our study respondents were women in union: previous studies have shown that abortion rate is higher in single and younger women<sup>3,23,24</sup>. Secondly, our study location is a peri-urban area: abortion rates in such areas are likely to be lower than that recorded in urban areas<sup>3,23-25</sup>.

**Table2:** Background Characteristics of Study Participants

Variables	Freq. (N=763)	%
<b>Wife's age</b>		
<25	95	12.5
25-34	350	45.9
>=35	295	38.7
Missing	23	3
<b>Wealth quintiles</b>		
Lowest	151	19.8
Lower	152	19.9
Middle	157	20.6
Higher	152	19.9
Highest	151	19.8
<b>Wife's educational level</b>		
None/primary	337	44.2
Secondary	299	39.2
Post-secondary	127	16.6
<b>Spousal educational difference</b>		
Same educational level	501	65.7
Husband greater than wife	92	12.1
Wife greater than husband	170	22.3
<b>Woman's employment status</b>		
Daily laborer/domestic	89	11.7
Salaried	84	11
Petty trader/marketing	433	56.8
Other	157	20.6
<b>Length of relationship in years (mean ± sd, median, range)</b>	10.6 ± 7.24, 10, 0-32	
<b>Spousal age-difference (mean ± sd, median, range)</b>	7.0 ± 5.00, 6, 0-29	

model with all the four dimensions of quality relationship simultaneously included and covariates adjusted for, only communication remained statistically significant (aOR=0.42; 95% C.I. =0.24-0.77) (Table 5).

## Discussion

This study explored the relationship between the quality of spousal relationship and abortion, with the aim of identifying elements of relationship with

**Table 3:** Pattern of Abortion Procurement According to Selected Socio-Demographic Background Characteristics: Bivariate Analysis

Variable	Ever had abortion Freq. (%)	Never had abortion Freq. (%)	χ <sup>2</sup> , p-value
<b>Wife's age (years)</b>			
<25	10(17.9)	85(12.4)	2.15, 0.34
25-34	22(39.3)	328(48.0)	
>=35	24(42.9)	271(39.6)	
Total	56(100.0)	684(100.0)	
<b>Wealth quintiles</b>			
Poorest	13(21.7)	138(19.6)	1.60, 0.81
Poorer	10(16.7)	142(20.2)	
Middle	11(18.3)	146(20.8)	
Richer	11(18.3)	141(20.1)	
Richest	15(25.0)	136(19.3)	
Total	60(100.0)	703(100)	
<b>Difference in educational level</b>			
Same level of education	39(65.0)	462(65.7)	0.45, 0.80
Wife > husband	6(10.0)	86(12.2)	
Husband > wife	15(25.0)	155(22.0)	
Total	60(100.0)	703(100.0)	
<b>Length of relationship (years)</b>			
<b>Mean (sd)</b>	10.3(8.05)	10.7(7.2)	Student's t-test value, p-value 0.40, 0.69

**Table 4:** Pattern of Abortion Procurement According to Selected Reproductive Characteristics and Spousal Relationship Quality: Bivariate Analysis

Variable	Ever had abortion Freq. (%)	Never had abortion Freq. (%)	$\chi^2$ , p-value
<b>Parity</b>			
0-1	17(28.3)	148(21.1)	<b>7.15, 0.03</b>
2-3	15(25.0)	300(42.7)	
>=4	28(46.7)	255(36.3)	
<b>Gravidity</b>			
1	7(11.9)	110(15.7)	<b>8.97, 0.01</b>
2-5	37(62.7)	506(72.4)	
>=6	15(25.4)	83(11.9)	
<b>Couple's desire for more children</b>			
Both want more	33 (55.0)	367 (52.2)	0.45, 0.80
Neither want more	16 (26.7)	181 (25.7)	
Only one partner want more	11 (18.3)	155 (22)	
<b>Number of children wife desired</b>			
1-3	8(22.9)	132(20.99)	2.40, 0.30
4-5	19(54.3)	381(60.4)	
>5	8(22.9)	118(18.7)	
<b>Number of children husband desired</b>			
1-3	10(20.4)	148(25.2)	0.60, 0.74
4-5	27(55.1)	312(53.1)	
>5	12(24.5)	128(21.8)	
<b>Son preferred by wife</b>			
Yes	16(26.7)	170(24.2)	0.19, 0.68
No	44(73.3)	533(75.8)	
<b>Son preferred by husband</b>			
Yes	15(25.0)	228(32.4)	1.41, 0.24
No	45(75.0)	475(67.6)	
<b>Wife uses contraceptives</b>			
Yes	22(36.7)	231(32.9)	0.36, 0.55
No	38(63.3)	472(67.1)	
Pattern of abortion procurement according to spousal relationship quality			
<b>Commitment</b>			
High	36 (60)	488 (69.5)	2.33, 0.13
Low	24 (40.0)	214 (30.5)	
<b>Trust</b>			
High	32 (53.3)	493 (70.2)	<b>7.36, 0.01</b>
Low	28 (46.7)	209 (29.8)	
<b>Satisfaction</b>			
High	33 (55.0)	430 (61.3)	0.93, 0.33
Low	27 (45.0)	271 (38.7)	
<b>Communication</b>			
High	30 (50.0)	510 (72.8)	<b>13.89, &lt;0.001</b>
Low	30 (50.0)	191 (27.2)	
<b>Perceived existence of relationship quality among couples (n=763)</b>			
	<b>High (Freq. (%))</b>	<b>Low (Freq. (%))</b>	
<b>Commitment</b>	524(68.7)	238(31.2)	
<b>Trust</b>	525(68.8)	237(31.1)	
<b>Satisfaction</b>	463(60.7)	298(39.1)	
<b>Communication</b>	540(70.8)	221(29.0)	

Apart from these factors, several other factors relating to the study population and study environment may account for variation in abortion-related statistics in Nigeria and other parts of the

world. Differences in sexual behaviour, health-seeking practices and health-related policies may all impact on abortion-related estimates. Willingness to disclose abortion-related

**Table 5:** Adjusted Odds\* Ratios (AOR) and 95% Confidence Interval (CI) of Measures of Relationship Quality as Predictors of Abortion

Explanatory Variables	Dependent variable: Ever had abortion =1, Never had abortion =0 (n=763)									
	Model 1		Model 2		Model 3		Model 4		Model 5	
	AOR	95% CI	AOR	95% CI	AOR	95% CI	AOR	95% CI	AOR	95% CI
<b>Commitment</b> (RC = Low)	1								1	
High	0.72	0.40-1.27							0.89	0.49-1.62
<b>Trust</b> (RC = Low)			1						1	
High			<b>0.48</b>	<b>0.27-0.84</b>					0.58	0.31-1.06
<b>Satisfaction</b> (RC = Low)					1				1	
High					0.79	0.45-1.37			0.94	0.53-1.67
<b>Communication</b> (RC Low)							1		1	
High							<b>0.38</b>	<b>0.21-0.67</b>	<b>0.43</b>	<b>0.24-0.77</b>

\*Adjusted for wife's age, education, employment status, wife versus husband education, wealth quintile, age difference, parity, couple's desire for more children, number of children desired by wife, number of children desired by husband, wife's preference for sons, husband's preference for sons, contraceptive use, difference in religion

RC = reference category; emboldened figures

experiences is a great challenge in abortion-related studies in Nigeria due to fairly strong cultural and religious influences, which frown at abortion, and the position of the law that regards abortion as a criminal and punishable offence in Nigeria<sup>24</sup>. Thus, the validity of self-reported abortion figures in Nigeria cannot be easily ascertained, although the challenge is likely to be less in older and married women compared to young, unmarried women. Abortion, in Nigeria, co-exists with high fertility desire as evidenced in our study with 24.5% of men whose wives have ever had abortion and 22.9% of women who have ever had abortion desiring 5 children or more. Not surprising, our study showed that a higher proportion of men (31.8%) compared to women (24.4%) expressed son-preference: son-preference is a persistent gender issue in Nigeria and is said to be a contributor to the high fertility situation in the country<sup>25</sup>. However, son preference, for either partner, was not significantly associated with abortion in this study. The study also found no statistical association between induced abortion and some other known correlates such as the age of

the woman, education, socioeconomic status, employment status, and use of contraceptives. Not much is known about the level of marital relationship quality in Nigeria: our findings provide useful data in that regard. The proportion of our respondents with good rating in each of the four dimensions of relationship quality was low – 31.2% for commitment, 31.1% for trust, 39.1% for satisfaction and 29% for communication. This finding suggests that couples considerably have less than optimal relationships, which needs to be improved. It is noteworthy that blacks have severally been reported to have lower marital quality than whites in the United States<sup>26-28</sup>.

Although trust and communication were the only dimensions of relationship quality which initially showed effect on induced abortion, only communication remained a significant predictor in the overall model in this study. The odds of a household with a high level of communication procuring induced abortion is 57% less than that of a household with low communication. It appears that whatever effect trust has on abortion procurement is mediated through communication.

This observation is strongly supported by psychologists' perspective that communication forms the basis for the stability of marital union and plays a central role in ensuring positive relationship between partners<sup>10</sup>. The quality of a couple's communication is associated with their level of marital adjustment<sup>10</sup>. Hence, the ability of a couple to transmit to each other their feelings, and share concerns and fears about an unwanted or unplanned pregnancy, may increase confidence in the relationship's capability to manage or cope with the consequences thereof in the face of the prevailing undesirable situation.

Our study has a number of limitations. First, its cross-sectional nature makes it impossible to determine causality or timing of events. Secondly, measures of relationship quality and induced abortion are all self-reported, and are subject to bias. Respondents may not feel comfortable to disclose the real situations in their family particularly if the relationship is negative, and social desirability bias may therefore be a challenge. On the other hand, abortion is a sensitive issue in Nigeria's conservative society and the custom, religion as well as legal provisions are unfavorable to induced abortion. As such, women may not readily admit to procurement of abortion, and therefore there may be an underestimate of abortion rate as well as misclassification. Such a misclassification, however, would tend towards null and as such association found to be statistically significant are likely to even have been stronger in the absence of such misclassification.

## Conclusions

These limitations notwithstanding, the results of the study have some relevant programmatic implications for addressing the challenge of induced abortion in Nigeria, and by extension reducing the maternal mortality burden as unsafe abortion is a major contributor to maternal death. The study found marital relationship quality to be low among our respondents, and that good communication between couples is significantly associated with lower level of induced abortion among married women. More studies are also needed to further investigate the effect of

relationship quality on reproductive outcomes among Nigerian population.

## Declaration

The authors declare that they have no competing interests.

## Authors' contributions

AP, AOF, AIA and BB formulated the research design and participated in the drafting and review of the manuscript. AP led the analysis and contributes significantly to the draft, AOF contributed to the drafting and analysis of the manuscript, AIA led the research design and formulation, and BB reviewed the relevant literature.

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