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ABOUT AJRH

African Journal of Reproductive Health (AJRH) is published by the Women's Health and Action Research Centre (WHARC). It is a multidisciplinary and international journal that publishes original research, comprehensive review articles, short reports and commentaries on reproductive health in Africa. The journal strives to provide a forum for African authors, as well as others working in Africa, to share findings on all aspects of reproductive health, and to disseminate innovative, relevant and useful information on reproductive health throughout the continent.

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The Women's Health and Action Research Centre (WHARC) is a registered non-profit organization, committed to the promotion of women's reproductive health in sub-Saharan Africa. Founded in 1995, the centre's primary mission is to conduct multidisciplinary and collaborative research, advocacy and training on issues relating to the reproductive health of women. The centre pursues its work principally through multidisciplinary groups of national and international medical and social science researchers and advocates in reproductive health.

WHARC receives core funding and support from the Ford Foundation and technical cooperation and mentorship from International Perspectives on Sexual and Reproductive Health and Studies in Family Planning. Principal funding for the journal comes from the Consortium on Unsafe Abortion in Africa. The goal of the centre is to improve the knowledge of women's reproductive health in Nigeria and other parts of Africa through collaborative research, advocacy, workshops and seminars and through its series of publications – the *African journal of Reproductive Health, the Women's Health Forum* and occasional working papers.

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APROPOS AJRH

La Revue Africaine de santé de la Reproduction (RASR) est publiée par le Women's Health and Action Research Centre (WHARC). C'est une revue à la fois pluridisciplinaire et internationale qui publie des articles de recherche originaux, des articles de revue détaillés, de brefs rapports et des commentaires sur la santé de la reproduction en Afrique. La Revue s'efforce de fournir un forum aussi bien à des auteurs africains qu'a des professionels qui travaillent en Afrique, afin qu'ils puissent partager leurs découvertes dans tous les aspects de la santé de reproduction et diffuser à travers le continent, des informations innovatrices, pertinentes et utiles dans ce domaine de santé de la reproduction.

La R*ASR* est indexée et figure sur I'Index Medicus/MEDLINE. Les résumés et les tables des matières sont publiés en ligne par INASP sur le site web *http:*//www.ajol.info/*ajol* tandis que le texte est publié à http://www.ajrh.info par Bioline International sur le site web *http://www.bioline.org.br/.* Il est également résumé dans *Ulrich Periodical, feminist Periodical et African Books Publishing Records*

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Le WHARC est une organization non gouvernementale à but non-lucratif s'engageé dans la promotion de santé de la reproduction chez la femme en Afrique sub-saharéenne. Fondé en 1995, le Centre a pour objectif principal de mener des recherches pluridisciplinaires et en collaboration, de promouvoir et de former des cadres en matières relatives à la santé de la reproduction chez la femme. Le Centre travaille surtout à travers des groupes mutidisciplinaires de chercheurs aussi bien nationaux qu'internationaux en sciences médicales et en sciences économiques dans le domaine de santé de la reproduction.

Le WHARC recoit une aide financière pricinpale de la Fondation Ford et bénéficie de la coopération technique de l'*International Perspectives on Sexual and Reproductive Health* et de *Studies in Family Planning*. Le financencement principale pour la revue vient de la part du Consortium on Unsafe Abortion in Africa. L'objectif du Centre est d'ameliorer la connaissance en matière de santé de la reproduction chez la femme au Nigeria et dans d'autres régions d'Afrique à travers la recherche en collaboration, le paidoyer, des ateliers et des séminaires à travers des séries de publication - *La Revue africaine de santé de la reproduction, Le Women's Health Forum* et des rapports des recherches de circonstance.

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EDITORIAL

Is Abortion Incidence Rising In Nigeria?

Friday Okonofua

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Unsafe abortion remains a major public health problem in Nigeria. Although the national law is largely restrictive of abortion, the practice continues with dire consequences for women's reproductive health. Abortion is probably the fourth leading cause of maternal mortality in Nigeria and accounts for significant proportions of maternal morbidity and long term reproductive ill-health. Over the past 20 years, huge efforts have been made by several local and international organizations to reduce the incidence of unsafe abortion and its complications in Nigeria. Ipas has led these efforts through its campaign on skills building for service providers as well as the education of at-risk women to adopt safe sex practices, including the use of contraceptives. However, recent reports suggest that these efforts may not be leading to the optimal goal of reducing the overall incidence of unsafe abortion in the country.

Two studies of the incidence of abortion in Nigeria were reported in the late 1990s. The first, based on interviews with health providers in 672 health facilities across the country, reported an abortion incidence of 610,000 abortions (nearly 25 abortions per 1000 women of reproductive age)[1]. The second paper published a year later[2] was based on a household survey of women of reproductive age in four out of the six geopolitical zones of the country. Participants in the study were interviewed with the indirect interviewing technique rather than by direct technique. The results showed an abortion incidence of nearly one million abortion cases among the women studied. In 2006, another study based on interviews with health professionals reported an abortion incidence of 760,000 cases in the preceding year[3], indicating an increase over the 1998 study that used a similar study design. Evidence of a rising pattern in abortion incidence in the country became manifest in a recent facility-based study that again interviewed health professionals. The study published in December 2015[4] conducted interviews with 194 health professionals in 772 health facilities, and reported an abortion incidence of 1.25 million abortions in 2012 (33 abortions per 1000 women of reproductive age).

Thus, if interviews with health professionals alone are taken into account, it would suggest that there is a rising incidence of abortion in Nigeria. However, interviews with health professionals working in health facilities is not sufficient as these can only document abortion cases seen in hospitals. They rarely provide insights into abortions that take place outside the hospital. Due to the restrictive abortion law in the country, induced abortions only come to the knowledge of health professionals when they are associated with complications. Many abortions that end up safely without complications (and they are many) are often not known to health professionals. This suggests that there are inherent flaws in basing abortion incidence on interviews with health professionals. Only the self-reporting of abortion by a representative sample of women is likely to truly and accurately estimate the incidence of abortion in an unbiased manner. However, getting accurate information from women in contexts were abortion is legally restrictive can be extremely daunting, but there are ways to overcome the difficulties.

Our study of a sample of women attending antenatal clinic in a teaching hospital in Nigeria where we requested information on their previous use of abortion indicated that up to 70% of the women have had induced abortions[5]. This was based on the hypothesis that women seeking health care services would be more willing to give accurate information on their previous use of abortion. Although women interviewed in the context of antenatal care in hospitals is still not representative of all women, the results of this study suggest that the recent report of abortion incidence in Nigeria based on reports by health providers[4] may have been mired by substantial under-reporting. If women in the same locality were to be interviewed confidentially and accurately, the true incidence of abortion would be more evident.

Thus, the first challenge that needs to be overcome is to determine the true incidence of abortion in Nigeria. Self-induced abortions by women using abortion pills have become widespread throughout the world. Mifepristone and misoprostol, the two main abortion pills are widely available in Nigeria and have been reported to be highly effective in Nigerian women[6]. However, the extent to which women use abortion pills to self-induce abortions has not yet been investigated in Nigeria. We believe this would be sizeable in view of the increasing number of women

who present in hospitals having taken pills to induce abortion. Therefore, only by interviewing a representative sample of women using confidential and accurate interviewing techniques will the correct estimate of abortion incidence be known. Any study of abortion incidence must aim to attain both internal validity and external validity so that the results would be reproducible over time and therefore allow accurate measurement of trends in abortion incidence.

Despite the difficulty in measuring abortion incidence, we believe that the recent report which suggests a rising incidence in induced abortion in Nigeria calls for sober reflection. Despite years of huge investments by international donor agencies in promoting family planning, Nigeria still has one of the lowest contraceptive prevalence rates (less than 10%) and highest unmet need for contraception (>20%) in Africa. It is now evident that resistance to contraception in the country is based on cultural and religious preachments that favour high fertility and the erroneous perceptions by women that contraception is associated with serious long term side effects. Efforts to increase contraceptive prevalence rate and reduce abortion incidence must therefore address these issues, and would have to be driven internally from within the country, if rapid results are to be attained. The predominance of donor-driven family planning promotional efforts not attended by country ownership has tended to lead to non-sustainable interventional results. Fortunately, one of the lead authors of the recent paper which showed increased incidence of abortion is currently Nigeria's Minister of Health. We believe this creates a unique opportunity for the country to do things differently and to develop an agenda for change to lead the implementation of evidence-based interventions for promoting family planning and reducing abortion incidence in the country. This period also corresponds with the timing of the implementation of the Sustainable Development Goals, especially Goal 3 which provides for the attainment of optimal health for all persons. So, the moment to reverse the consequences associated with abortion in Nigeria has come and must be handled with every sense of urgency and responsibility.

Conflict of Interest

None

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EDITORIAUX

Est-ce que l' incidence des avortements augmente au Nigeria?

Friday Okonofua

Rédacteur, *Revue africaine de santé de la reproduction*

L'avortement dangereux reste un des problèmes majeurs de santé publique au Nigeria. Bien que les lois nationales soient restrictives en matière de l'avortement, la pratique se poursuit avec de graves conséquences pour la santé de la reproduction chez les femmes. L'avortement constitue peut-être la quatrième cause principale de la mortalité maternelle au Nigeria et celle-ci représente une proportion importante de la morbidité maternelle et une mauvaise santé de la reproduction à long terme. Au cours de vingt dernières années, de grands efforts ont été faits par des organisations locales et internationales pour réduire l'incidence des avortements dangereux et leurs complications au Nigeria. L'*Ipas* a mené ces tentatives à travers ses campagnes concernant le développement de compétence chez les dispensateurs des services aussi bien que pour asssurer la sensibilisation des femmes en danger pour qu'elles adoptent des pratiques sexuelles non dangereuses y compris l'emploi des contraceptifs. Pourtant, des rapports récents ont suggéré que ces tentatives peuvent ne pas mener au but optimal de réduire l'incidence globale des avortements dans le pays.

Deux études portant sur l'incidence des avortements au Nigeria ont été signalées vers la fin des années 1990. La première qui a été basée sur les interviews recueillies auprès des dispensateurs de soin dans 672 établissements de santé à travers le pays, a rapporté une incidence de l'avortement de 610.000 avortements (près de 25 avortements pour 1000 femmes en âge de procréer)[1]. La deuxième étude qui a été publiée un an après[2] a été basée sur une enquête menée auprès des femmes au sein des foyers et qui sont en âge de procréer dans quatre parmi les six régions géopolitiques du pays. Les participantes à l'étude ont été interrogées à l'aide de la technique d'interrogation indirecte plutôt qu'à l'aide de la technique directe. Les résultats ont révélé une incidence des avortements de près d'un million cas d'avortements chez les femmes interrogées. En 2006, une autre étude basée sur les interviews recueillies auprès du personnel de santé a signalé une incidence des avortements de 760.000 cas dans l'année précédente[3], indiquant une augmentation par rapport à l'étude de 1998 qui se servait d'un pareil dessin. La preuve d'une tendance montante de l'incidence des avortements dans le pays s'est manifestée dans une étude récente basée sur un établissement qui, encore une fois, a interrogé les professionnels de santé. L'étude qui a été publiée au mois de décembre 2015[4] a organisé des interviews auprès des 194 professionnels de santé dans 772 établissements de santé et a signalé une incidence des avortements de 1,25 million avortements en 2012 (33 avortements pour 1000 femmes en âge de procréer).

Ainsi, si l'on ne tient en considération que les interviews recueillies auprès des professionnels de santé, cela suggérait qu'il y a une incidence montante des avortements au Nigeria. Cependant, les interviews auprès des professionnels qui travaillent dans des établissements de santé n'est pas suffisante puisque celles-ci peuvent documenter seulement les cas vus dans les hôpitaux. Elles donnent à peine des aperçus sur les avortements qui se produisent hors de l'hôpital. A cause de la loi de l'avortement restrictive dans le pays, l'avortement provoqué n'est pas porté à la connaissance des professionnels de santé sauf quand il est lié à des complications. Beaucoup d'avortements qui se produisent sans complications (et ils sont nombreux) ne sont pas souvent connus par les professionnels de santé. Ceci indique qu'il y a beaucoup de problèmes qui se posent quand on base les incidences des avortements sur les interviews recueillie auprès

des professionnels de santé. Seule l'auto-déclaration des avortements à travers un échantillon représentatif des femmes aura la possibilité d'estimer vraiment et de mesurer avec exactitude l'incidence des avortements de manière objective. Cependant, obtenir des informations correctes de la part des femmes dans des contextes où l'avortement est légalement restrictif peut être extrêmement décourageant, mais il existe des manières pour surmonter les difficultés.

Notre étude sur un échantillon des femmes qui fréquentaient la clinique prénatale dans un Centre Hospitalier Universitaire au Nigeria où nous avons demandé des renseignements sur l'avortement qu'elles ont déjà eus a montré que jusqu'à 70% des femmes ont eu des avortements provoqués[5]. Ceci a été basé sur l'hypothèse que les femmes qui recherchent les services de soin seraient mieux disposées à donner des informations plus exactes sur l'avortement qu'elles ont déjà eus. Mettre ceci en perspective indiquera que le rapport récent de l'incidence des avortements au Nigeria, basé sur les rapports présentés par les dispensateurs de soin[4], auront été gravement compromis dans un sous-reportage. Si l'on devait interroger confidentiellement les femmes du même milieu, la vraie incidence des avortements serait considérablement plus élevée.

Ainsi, le premier défi qu'on doit surmonter est de déterminer la vraie incidence des avortements au Nigeria. Les avortements auto-provoqués par les femmes qui utilisent les pilules abortives se produisent dans le monde entier. Mifepristone et et misopristol, les deux principales pilules abortives sont facilement disponibles au Nigeria et sont reconnues comme étant hautement efficaces chez les femmes nigérianes. Cependant, l'ampleur de l'utilisation des pilules abortives chez les femmes pour auto-provoquer les avortements n'a pas été étudiée. Nous sommes persuadés que ceci sera énorme vu le nombre croissant des femmes qui se présentent dans les hôpitaux, ayant pris des pilules pour provoquer l'avortement. Donc, c'est seulement par l'interrogation d'un échantillon représentatif des femmes à l'aide des techniques d'interview confidentielle et exacte que nous pourrons obtenir la bonne estimation de l'incidence des avortements. Toute étude sur l'incidence des avortements doit viser à atteindre à la fois la validité interne et la validité externe pour que les résultats soient reproductibles au cours d'une certaine période, permettant ainsi d'avoir une estimation exacte des tendances concernant l'incidence des avortements.

Malgré la difficulté rencontrée dans l'estimation de l'incidence des avortements, nous sommes convaincus que le rapport récent qui indique une hausse dans l'incidence des avortements provoqués au Nigeria fait appel à une réflexion mûre. Malgré les gros investissements par les donateurs internationaux pour la promotion de la planification familiale, le Nigeria a l'un de taux de prévalence contraceptif les plus bas (moins de 10%) et les besoins non satisfaits de la contraception (>20%) en Afrique. Il est maintenant évident que la résistance à la contraception dans le pays est basée sur les prédications culturelles et religieuses qui favorisent la haute fertilité et les fausses perceptions chez les femmes que la contraception est liée à de graves effets à long terme. Les efforts vers l'augmentation de taux de prévalence contraceptive et la réduction de l'incidence des avortements doivent donc s'occuper de ces problèmes et doivent aussi être soutenus de l'intérieur du pays, si l'on doit accomplir des résultats rapides. La prédominance des efforts promotionnels de la planification familiale financés par les donateurs qui ne sont pas assistés par un pays-propriétaire a eu la tendance à aboutir à des interventions non soutenues. Heureusement, un des auteurs du rapport récent qui a indiqué une augmentation dans l'incidence des avortements est actuellement le Ministre de la Santé du Nigeria. Nous sommes persuadés que ceci crée une occasion exceptionnelle pour le pays d'agir autrement et d'élaborer un programme de modification pour défendre la mise en œuvre des interventions fondées sur l'expérience pour la promotion de la planification familiale et pour réduire l'incidence des avortements dans le pays. Cette période correspond aussi au moment de la mise en œuvre des Objectifs du Développement Viable, surtout l'Objectif 3 qui préconise la bonne santé pour tous les individus. Alors, le moment de renverser les conséquences liées à l'avortement au

Nigeria est venu et doit être géré avec un sens d'urgence et de responsabilité.

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ORIGINAL RESEARCH ARTICLE

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

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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).*

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

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).*

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

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[1]. In 2008, an estimated 21.6 million unsafe abortions took place globally, with more than 98% of them occurring in developing countries[1]. 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[1]. More than 97% of abortions in Africa are unsafe[2]. 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[3]. Unsafe abortion contributes about 11% of maternal deaths in Nigeria[4]. 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[5]. Spanier and Lewis defined marital quality as "the subjective evaluation of a married couple's relationship on a number of dimensions and evaluations[6]". Prominent dyadic dimensions of couple's relationship which have been studied include commitment[7], trust[8], satisfaction[9] and communication[10]. 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[5]. Bankole and colleagues also adduced relationship problems with a husband or partner as an important factor that influences the procurement of abortion by women[11]. 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"[12]. 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[13], 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[13]. 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[11]. According to Bongaarts and Westoff[14], 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[15]. 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[16-18] 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[8], measure of "commitment" from Sternberg's commitment scale[7], measure of "satisfaction" from

Spanier's satisfaction scale[9] and measure of "communication" from Heavey's constructive communication scale[10]. 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[19]. 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[20]. Non-responses were assumed to be missing at random (MAR), thus the missing mechanism of the data was ignorable[20-22].

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 ± 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 ± 7.24 years (median=10 years) and the mean spousal age difference was 7 years, ± 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)
Commitment	Expect love for partner to last for life	0.628	0.812
(Cronbach's α: Husbands scale = 0.86; Wives scale = 0.90)	Can't imagine ending my relationship with partner	0.765	0.901
	Committed to maintaining my relationship	0.816	0.819
	Have confidence in stability of my relationship	0.814	0.785
Trust	My partner is perfectly honest and truthful with me	0.724	0.798
(Cronbach's α: Husbands scale = 0.82; Wives scale = 0.87)	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
	I feel that my partner can be counted on to help me	0.536	0.655
Satisfaction	Often discuss or considered divorce or separation	0.514	0.58
Cronbach's α: Husbands scale = 0.70.; Wives scale = 0.78)	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
Communication	We try to discuss the problem *	0.809	0.909
Cronbach's : Husbands scale = 0.80.; Wives scale = 0.84)	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 Ɨ	0.555	0.712
	We threaten each other with negative consequences Ɨ	0.664	0.681
	Call my partner names, swear at partner or attack partner's character Ɨ	0.867	0.917
	Partner calls me names, swears at me or attacks my character Ɨ	0.850	0.892

**Constructive communication subscale - Cronbach's α for husbands and wives are 0.87 and 0.95, respectively*
Ɨ Destructive communication subscale - Cronbach's α 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 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).

Table2: Background Characteristics of Study Participants

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

Discussion

This study explored the relationship between the quality of spousal relationship and abortion, with the aim of identifying elements of relationship with 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[3]. 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%[23], 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[24]. 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[3,23,24]. 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[3,23-25].

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^2, p-value
Wife's age (years)			
<25	10(17.9)	85(12.4)	
25-34	22(39.3)	328(48.0)	2.15, 0.34
>=35	24(42.9)	271(39.6)	
Total	56(100.0)	684(100.0)	
Wealth quintiles			
Poorest	13(21.7)	138(19.6)	
Poorer	10(16.7)	142(20.2)	1.60, 0.81
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)	
Difference in educational level			
Same level of education	39(65.0)	462(65.7)	
Wife > husband	6(10.0)	86(12.2)	0.45, 0.80
Husband > wife	15(25.0)	155(22.0)	
Total	60(100.0)	703(100.0)	
Length of relationship (years)			**Student's t-test value, p-value**
Mean (sd)	10.3(8.05)	10.7(7.2)	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. (%)	χ^2, p-value
Parity			
0-1	17(28.3)	148(21.1)	
2-3	15(25.0)	300(42.7)	**7.15, 0.03**
>=4	28(46.7)	255(36.3)	
Gravidity			
1	7(11.9)	110(15.7)	
2-5	37(62.7)	506(72.4)	
>=6	15(25.4)	83(11.9)	**8.97, 0.01**
Couple's desire for more children			
Both want more	33 (55.0)	367 (52.2)	
Neither want more	16 (26.7)	181 (25.7)	0.45, 0.80
Only one partner want more	11 (18.3)	155 (22)	
Number of children wife desired			
1-3	8(22.9)	132(20.99)	
4-5	19(54.3)	381(60.4)	2.40, 0.30
>5	8(22.9)	118(18.7)	
Number of children husband desired			
1-3	10(20.4)	148(25.2)	
4-5	27(55.1)	312(53.1)	0.60, 0.74
>5	12(24.5)	128(21.8)	
Son preferred by wife			
Yes	16(26.7)	170(24.2)	
No	44(73.3)	533(75.8)	0.19, 0.68
Son preferred by husband			
Yes	15(25.0)	228(32.4)	
No	45(75.0)	475(67.6)	1.41, 0.24
Wife uses contraceptives			
Yes	22(36.7)	231(32.9)	
No	38(63.3)	472(67.1)	0.36, 0.55
Pattern of abortion procurement according to spousal relationship quality			
Commitment			
High	36 (60)	488 (69.5)	2.33, 0.13
Low	24 (40.0)	214 (30.5)	
Trust			
High	32 (53.3)	493 (70.2)	**7.36, 0.01**
Low	28 (46.7)	209 (29.8)	
Satisfaction			
High	33 (55.0)	430 (61.3)	0.93, 0.33
Low	27 (45.0)	271 (38.7)	
Communication			
High	30 (50.0)	510 (72.8)	**13.89, <0.001**
Low	30 (50.0)	191 (27.2)	
Perceived existence of relationship quality among couples (n=763)			
	High (Freq. (%))	**Low (Freq. (%))**	
Commitment	524(68.7)	238(31.2)	
Trust	525(68.8)	237(31.1)	
Satisfaction	463(60.7)	298(39.1)	
Communication	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
Commitment (RC = Low)	1								1	
High	0.72	0.40-1.27							0.89	0.49-1.62
Trust (RC = Low)			1						1	
High			**0.48**	**0.27-0.84**					0.58	0.31-1.06
Satisfaction (RC = Low)					1				1	
High					0.79	0.45-1.37			0.94	0.53-1.67
Communication (RC Low)							1		1	
High							**0.38**	**0.21-0.67**	**0.43**	**0.24-0.77**

**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[24]. 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[25]. 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[26-28].

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[10]. The quality of a couple's communication is associated with their level of marital adjustment[10]. 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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ORIGINAL RESEARCH ARTICLE

Challenges Addressing Unmet Need for Contraception: Voices of Family Planning Service Providers in Rural Tanzania

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Abstract

Provider perspectives have been overlooked in efforts to address the challenges of unmet need for family planning (FP). This qualitative study was undertaken in Tanzania, using 22 key informant interviews and 4 focus group discussions. The research documents perceptions of healthcare managers and providers in a rural district on the barriers to meeting latent demand for contraception. Social-ecological theory is used to interpret the findings, illustrating how service capability is determined by the social, structural and organizational environment. Providers' efforts to address unmet need for FP services are constrained by unstable reproductive preferences, low educational attainment, and misconceptions about contraceptive side effects. Societal and organizational factors – such as gender dynamics, economic conditions, religious and cultural norms, and supply chain bottlenecks, respectively – also contribute to an adverse environment for meeting needs for care. Challenges that healthcare providers face interact and produce an effect which hinders efforts to address unmet need. Interventions to address this are not sufficient unless the supply of services is combined with systems strengthening and social engagement strategies in a way that reflects the multi-layered, social institutional problems. *(Afr. J Reprod Health 2015; 19[4]: 23-30).*

Keywords: Contraception, Unmet need for family planning, Provider perspectives, Tanzania, Quality of care.

Résumé

Les perspectives de fournisseurs ont été négligées dans les efforts pour s'occuper des défis que constituent les besoins non satisfaits de planification familiale (PF). Cette étude qualitative a été menée en Tanzanie, À l'aide de22 entretiens avec des informateurs clés et 4 groupes de discussion à cible. L'étude fait une documentation des perceptions des gestionnaires de soins de santé et des fournisseurs dans un district rural sur les obstacles à la satisfaction de la demande latente pour la contraception. La théorie sociale-écologique est utilisée pour interpréter les résultats, illustrant la façon dont la capacité de service est déterminée par l'environnement social, structurel et organisationnel. Les efforts des fournisseurs pour aborder les besoins non satisfaits en services de PF sont contraints par les préférences de la reproduction instables, le niveau bas d'instruction, et les idées fausses au sujet des effets secondaires des contraceptifs. Les facteurs sociaux et organisationnels - tels que la dynamique entre les sexes, les conditions économiques, les normes religieuses et culturelles, et les goulets d'étranglement de la chaîne d'approvisionnement, respectivement - contribuent également à un environnement défavorable pour répondre aux besoins de soins. Les défis auxquels font face les fournisseurs de soins de santé interagissent et produisent un effet qui entrave les efforts visant à répondre au besoin non satisfait. Les interventions visant à les régler ne sont pas suffisantes à moins que la fourniture de services soit combinée avec le renforcement des systèmes et l'engagement social des stratégies d'une manière qui reflète les problèmes institutionnels à plusieurs couches sociales. *(Afr. J Reprod Health 2015; 19[4]: 23-30).*

Mots-clés: contraception besoins non satisfaits de planification familiale, perspectives pour les fournisseurs, Tanzanie, qualité des soins.

Introduction

The total fertility rate in Tanzania is 5.8, a higher level of fertility that has been sustained since the mid-1990s. Overtime, contraceptive prevalence has remained low and the unmet need for contraception high at 34% and 25% in 2010, respectively[1]. As a consequence, the population growth rate ranks among the highest of any country in the world, at 3%[2].This growth offsets much of the economic and social development gains that have been achieved in recent decades[3]. Moreover, rapid population growth undermines broader health development in the country[4].

Studies in Tanzania have demonstrated that contraceptive use correlates with socio-economic characteristics, education attainment, parity, gender equality and cultural values that promote large

families[5-9]. Research has investigated the effect of supply-side factors on the demand for family planning services, drawing upon client perceptions[10], provider and facility characteristics[11,12]. Perceptions of quality, acceptability and comprehensiveness of reproductive health services influence women's use of family planning[13-15]. It follows that providers are targets for family planning interventions[16]. Nevertheless, providers are nested within the societal, cultural and organizational contexts in which they perform. Findings from Tanzania suggest this affects how family planning providers perform; however, these have drawn upon client perspectives[17]and characteristics of facilities[18-19]. The objective of this study was to fill this gap, adopting the perspectives of health care providers on factors that explain the barriers to addressing demand for contraception in rural Tanzania.

Background and Study Data

Data come from the formative research conducted in Kilombero district, Morogoro Region, as a sub-study of the *Connect Project*, a randomized trial testing the impact of deploying paid cadre of CHW that implement an integrated maternal, newborn and child health (MNCH) service package[20]. The family planning services performed by the *Connect* CHW, known as WAJA (*Wawezeshaji wa Afya ya Jamii* – Community Health Agents) include distribution of condoms, re-filling oral contraceptives to users and providing education and referrals at households. This research was conducted in 2013 to contextualize midline findings that WAJA had no effect on contraceptive utilization after two years of deployment. It employed in-depth interviews (IDI) and focus group discussions (FGD) with key informants.

Methods

We conducted phenomenological research providers' perspective of the challenges of unmet need for contraception. The methodology employed was qualitative, comprising of focus group discussions (FGD) and in depth interviews (IDI) with key informants (KI). KI Interviews last for an hour on average, while focus group discussions last for approximately one and half to two hours each. Interviews and discussions were conducted in Swahili, transcribed and then translated to English. Purposive sampling was used to identify potential key informants to participate in IDI and FGD. These included WAJA, providers at health facilities and members of Council Health Management Team (CHMT) in Kilombero district. Data comes from 22 key informant interviews (two District Medical Officers, two District Reproductive and Child Health Coordinators, 8 WAJA, 2 District WAJA Coordinators, and 4 nurses and 4 clinical officers) and 4 focus group discussions each with 6-8 providers. Half of the IDI participants were male. All IDI respondents were currently employed; with an average of 4.5 years in their current designation. Amongst FGD participants, one-third was male. Participants had on average 5.2 years of work in their designation.

Analytical steps pursued an in-depth, inductive approach for developing theories for the effectiveness of family planning service delivery[21]. Four social scientists reviewed all transcripts. Iterative discussions were ensued, resulting in a code book, which provided a schema for further stages of analysis that explore different themes on the contextual influences on family planning service delivery: societal, health systems, and individual client influences. During coding, inter-coder reliability checks were conducted to ensure agreement on reliability, trends and patterns, inter-relationships within and across themes and between coders. Based on this, theories were generated to explain challenges in family planning service delivery. Matrices were developed arraying these theories against the data by theme. For analysis, coders and scientists used QSR International's NVivo 9 qualitative software package.

To guide the analysis, scientists drew upon 'social ecologicaltheory'[22], which illustrate that individuals are nested within different contextual domains which influence them at different levels in different ways that define individual agency. This emphasizes the multi-layered effects of (i) societal (ii) health system, and (iii) individual client contexts on health care providers' effectiveness.

Ethics

Permission for this study was accorded by the ethical review boards of the Ifakara Health Institute the National Institute for Medical Research's Medical Research Coordinating Committee) and the Internal Review Board (IRB) of Columbia University Medical Center. Research assistants administered formal informed consent procedures and obtained the signature of subjects to confirm willingness to participate. The consent forms clearly stated the participant's right to withdraw from the study at any point during the interviews.

Description of Study Population

In 2011, *Connect* conducted a household survey to capture baseline characteristics of study participants. In the *Connect* study area, the baseline total fertility rate was 5.3, compared the national level of 5.4. Contraceptive prevalence was 37% among women of reproductive age, a level of use that is similar to national estimates provided by the Demographic and Health Survey of 2010, 34%[1]. Unmet need for spacing purposes was estimated at 16% by both surveys, whereas the level of unmet need for limiting was higher in the *Connect* survey, 15%, compared with the DHS national figure of 10%[1].A 2011 health facility assessment in the study area showed that half of the 136 first-line facilities (dispensaries) in study areas lacked Clinical Officers or higher level providers, in marked contrast to national staffing requirements. Instead, over half of the facilities were staffed by Medical Attendants who lack formal health care training. Out of all facilities (136 dispensaries, 8 health centers and 2 hospitals), only 14 dispensaries and 2 health centers had a checklist for method suitability; and only 57 facilities had materials for family planning education, 22 dispensaries were currently out of stock of oral contraceptives and 78% of the dispensaries and one health center were stocked out of DMPA.

Results

Various individual, societal and health systems factors interact and influence providers' ability to provide quality family planning services.

Societal context

Providers identified a range of societal and cultural factors which hinder their work, namely gender and religious norms, and economic and livelihood factors. Providers reported that most women secretly used contraception in response to concerns about spousal opposition or extended familial discord. Such concerns lead to discontinuance, even among women who express a need for contraception. Informed choice, a guiding principle of family planning counselling, loses meaning when primary use criterion is partner permission and an undetectable method.

> *On the other hand, traditionally the power is on man, a man is the one who has a say on the number of children to be borne. He is the one who plan it all, he can decide to have let say ten or seven children depending on his will because he believes that these children may assist him in the future, so he wants to utilize the ovaries of his woman.* (WAJA, IDI)

In order to hide their contraceptive use, providers report that clients prefer to obtain family planning from drug shops, where they can avoid long waits and have more privacy.

> *They go and buy it in shops. Because of [husbands'] harshness their wives decided to do it secretly, and they go to the drug shops because there is no any education and check-ups there, and this led to problems.* (Nurse, IDI)

Without an understanding of proper adherence, clients who obtain services from drug shops administer methods in a way that may reduce effectiveness. For example, they may remove oral contraceptive pills from original packaging and place in another container that it appears like other medicines, which promotes behavior that may lead to method failure. Providers frequently link this challenge with the health system's failure to adequate reach men.

> *With the maternal and child health services men's involvement is not satisfactory may be because the system*