



# Task Shifting/Sharing on Contraceptive Counselling Services between Midwives and Physicians *A Randomized Control Trial in Kisumu County, Kenya*

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## Summary

### INTRODUCTION

Unsafe abortion, led to 120,000 Kenyan women receiving Post Abortion Care (PAC) in 2012. 70% of those women, had not used contraceptives before pregnancy. The aim of the study was to determine if post abortion contraceptive counselling could be shared between physicians and midwives in Kisumu County, Kenya.

### METHODOLOGY

A total of 128 women were included in this cohort study that was nested in a larger randomized controlled trial, whereby women sought PAC at Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) and Kisumu County Hospital (KCH) from October 2015 to September 2017. The 128 women were randomly assigned to a midwife or a physician for contraceptive counselling. Then a follow up after 7–10 days or three months. Associated factors for contraceptive uptake, contraceptive method choice, adherence, and satisfaction level, were analyzed using *chi square*, Fishers exact test, IBM SPSS Statistics for Windows, *Version 22.0*.

### RESULTS

In the study, there was no difference between midwives (98.5%) and physicians (93.5%) in providing contraceptive counselling to post abortion women. 95.3% of the participants accepted while 4.7% did not accept use of contraceptives. The most commonly used contraceptive method after counselling was hormonal injection at 39%. After 3-months follow-up 79.7% retained the chosen contraceptive method while 20.3% had changed the usual type of contraception and 3.9% had stopped using contraceptives. Among the respondents who still used a method, 96.1% were satisfied with the chosen methods, with no difference between midwives and physicians ( $p=0.799$ ). Parity had significant influence on contraceptive uptake and adherence ( $p= 0.000$ ).

### CONCLUSION

Post abortion seeking women were satisfied with contraceptive counselling they received regardless of whether the provider was a midwife or a physician. The result emphasizes that



## physicians task sharing of contraceptive counselling with midwives is conceivable, with possibility for physicians focusing on more complicated cases.

**Keywords:** Contraceptive counselling, Contraceptive uptake, Post Abortion Women, Midwives, Physicians, Kenya.

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### Introduction

"One of the greatest challenges will be to find creative ways to meet the increasing need for quality contraceptive use in countries with declining resources" (WHO 2010). To minimize the problem of unintended pregnancies and repeat abortions, there should be a constellation of services linked to emergency post abortion treatment, particularly contraceptive services within the treatment area [2].

In many countries there were few or no physicians working in rural and remote areas and this fact limits timely access to PAC. The only health service providers allowed to perform the procedure were trained, certified physicians and few other providers (midwives) working under the supervision of physicians in hospital settings [8, 22].

It has been shown in low-resource settings that the strategic use of mid-level providers could contribute to mitigating human resource problems in emergency obstetric and gynaecological care [5].

It is therefore important to find out if midwives can effectively administer contraceptives to post abortion women on their own. Post abortion care was a critical element in managing women's health initiatives that was coined in *Ipas's* 1991 strategic planning document. The strategic planning encouraged the use of Post Abortion Care as a means to sensitize women on family planning services in health care with an aim of breaking repeat unwanted pregnancies while improving their overall health status [2, 7, 13, 21].

*Ipas* listed PAC as an important element for providing quality abortion care to post abortion women. Post Abortion Care Consortium was founded to educate the reproductive health community that will show the consequences of unsafe abortion and help in promoting Post Abortion Care as effective as any health strategy [2] *Ipas* published the original PAC model, consisting three elements;

1. Emergency treatment services for complications of spontaneous abortions

2. Unsafely induced abortion, counselling services
3. A link between emergency abortion treatment services and comprehensive reproductive health care.

Globally, abortion rates have decreased significantly from 40 (1990–1994) to 35 (2010-2014) per 1000 women of reproductive age. However, unsafe abortion as a result of unplanned pregnancy remains a persistent public health challenge to women's health [15, 16, 44] .

Global contraceptive use has risen slightly from 54% in 1990 to 57.4% in 2015, though Asia had the slightest rise from 60.9% to 61.8%, while in Latin America its use has remained stable at 66.7% Global Maternal mortality ratio, fell from 385/100,000 live births in 1990 to 216/100,000 live births in 2015 [1, 10 20].

### Regional Overview.

As of 2017, 58 million women of reproductive age in the region have had an unmet need of modern contraception. Many women prefer using traditional methods, which are less effective [16, 17].

Between 2010-2014 some 8.2 million induced abortions occurred each year in Africa. Abortion rate in the region was 34/1000 women. It is estimated that in 2015 low-income countries had a maternal mortality ratio of 239/100,000 live births while high-income countries had a maternal mortality ratio of 12/100,000 live births. Developing regions including 93 percent of the countries with the most restrictive abortion laws – saw only a drop from 39 to 36 abortions per 1,000 women [13, 16, 19]

Locally. Kenya was among the countries with the highest fertility rate in the world currently having an average of 3.79 births per woman as of 2014 [23]. Abortion is restricted by law in Kenya and only permitted if in the opinion of a trained health professional that, there is need for emergency treatment to save a woman's life. Article 26(4) of the Constitution of Kenya 2010).



Morbidity and mortality among women due to unsafe abortion contributed from 35 % to 80 % of maternal deaths in Kenya. A study recently indicated that 45% of young women aged 19 years and below had experienced severe Post Abortion Complications once in their lifetime [9].

## Materials and Methodology

This was a prospective cohort study nested in a larger open label randomized controlled trial on PAC patients at Jaramogi Oginga Odinga Teaching and Referral Hospital and Kisumu County Hospital in Kenya [11]

The research assistants for participation in the two health facilities were Midwives (n=17) and Physicians (n=7). They were trained by the research team in 5 days using a programme entrenched in the standardized PAC training module. Randomization was performed using permuted blocks of varying sizes (between 2 and 8) generated using computer random numbers.

Allocation concealment was safeguarded through use of sequentially numbered, sealed opaque envelopes during enrollment. Women (n=128) were first screened based on the last menstrual period, pregnancy tests and symptoms, then randomly allocated to either the 7 physicians or the 18 midwife-led contraceptive counselling facilitators. Out of the 17 midwives, four of them in each of the two facilities were given added responsibilities such as, overseeing and monitoring supply and stock (contraceptives).

In addition, they were responsible for the follow-up of the respondents after contraceptive counselling, and uptake. The primary outcome of contraceptive uptake was assessed at two time points (day 7-10 and at 3 months). For ethical reasons blinding of participants to allocation was not attempted, considering respondents' right to know the identity of the health care providers.

## Data Analysis

The quantitative analysis involved descriptive statistics, using IBM SPSS Statistics for Windows, Version 22.0. *Chi-square tests* was used for comparison of outcome. P-values equal to or lower than 0.05 were considered statistically significant. Logistic regression was performed to determine the factors that predicted the use of contraceptives. (The results were then

presented in the form of charts, graphs and frequency tables).

The quantitative analysis of the demographics of the study area and study population made it possible to find out if there were any significant differences in respondents' age, marital status, residence, previous induced or spontaneous abortion, and parity regarding uptake of contraceptives and adherence.

## Results

A total of 128 Post Abortion Care (PAC) seeking women were recruited and included in the statistical analysis. However, 6 (4.7%) participants dropped out since they did not accept to use contraceptives after counseling whereby 122 (95.3%) respondents accepted to use a contraceptive method. At 3 months follow-up the total number increased to 123 when one of the drop out respondents rejoined the group. 98 maintained the initially chosen type of contraceptive method while 25 changed to another type of contraceptive.

## Socio-Demographic and Obstetric Characteristics of Respondents

There were no significant differences in the demographic characteristics of Post Abortion Participants receiving Physician or Midwife-led Contraceptive Counselling (**Table 4.1**). The mean age of respondents counseled by midwives was 25.0 ( $\pm 0.7$ ) years compared to 24.7 ( $\pm 0.6$ ) years (SD  $\pm 5.4$ ) in counseled by physicians.

The age range of respondents in each of the study groups was between 16 and 43 years. Majority 89 (69.5%) of the respondents were between 21 and 30 years of age. Out of the 64 participants in the physician counselling care, 49 (76.6%) were married. While 45 (70.3%) of the midwife counseled Post Abortion respondents were married.

Christians were the majority in both treatment care accounting for 99.2% respondents and Muslims were 1.8%. About half of the participants 65 (50.8%) had attained secondary school level of education. There was no significant variation in educational level between the two treatment care ( $p = 0.504$ ). The unemployment rate in the two groups was comparable at 33 (51.6%) and 29 (45.3%) in the midwife and physician counseled arms respectively, with no significant difference ( $p = 0.656$ ).



**Table 4.1:** Demographic Characteristics of 128 Post Abortion Care Seeking Women, Separated by Midwives and Physicians.

| Variables             |                 | Midwife   | Physician | Total      | p-value*  |
|-----------------------|-----------------|-----------|-----------|------------|-----------|
| <b>Age in years</b>   | ≤20             | 12(18.8)% | 12(18.8)% | 24(18.8)%  | 0.799 (*) |
|                       | 21 – 30         | 44(68.8)% | 45(70.3)% | 89(69.5)%  |           |
|                       | 31 – 40         | 7(10.9)%  | 7(10.9)%  | 14(10.9)%  |           |
|                       | >40             | 1(1.6)%   | 0(0.0)%   | 1(0.8)%    |           |
| <b>Marital Status</b> | Married         | 45(70.3)% | 49(76.6)% | 94(73.4)%  | 0.423(*)  |
|                       | Single          | 19(29.7)% | 15(23.4)% | 34(26.6)%  |           |
| <b>Religion</b>       | Christian       | 63(98.4)% | 64(100)%  | 127(99.2)% | 1.000(*)  |
|                       | Muslim          | 1(1.6)%   | 0(0.0)%   | 1(0.8)%    |           |
|                       | Primary         | 16(25.0)% | 19(29.7)% | 35(27.3)%  |           |
|                       | Secondary       | 36(56.3)% | 29(45.3)% | 65(50.8)%  |           |
|                       | Tertiary        | 12(18.8)% | 15(23.4)% | 27(21.1)%  |           |
| <b>Occupation</b>     | Unemployed      | 33(51.6)% | 29(45.3)% | 62(48.4)%  | 0.656(*)  |
|                       | Formal employed | 10(15.6)% | 9(14.1)%  | 19(14.8)%  |           |
|                       | Self employed   | 21(32.8)% | 26(40.6)% | 47(36.7)%  |           |

**KEY:** \*=Chi-square, *F* = Fishers exact test.

## Parity and Gravidity

There were more multigravida clients among those assigned to a physician while prime gravida

respondents were significantly more prevalent among patients assigned to a midwife ( $p = 0.013$ ) (**Table 4.3**).



**Table 4.2 : Difference in Gravidity Status, Parity Status and Number of Live Births Between Service Providers (Mid Wife / Physician)**

|                              |                      | Midwife  | Physician | Total    | P-value*  |
|------------------------------|----------------------|----------|-----------|----------|-----------|
| <b>Gravidity</b>             | <i>Prime gravida</i> | 39(60.9) | 25(39.1)  | 64(50.0) | 0.013 (F) |
|                              | <i>Multigravida</i>  | 25(39.1) | 39(60.9)  | 64(50.0) |           |
| <b>Parity</b>                | <i>Nullipara</i>     | 28(43.8) | 22(34.4)  | 50(39.1) | 0.461(*)  |
|                              | <i>Primipara</i>     | 23(35.9) | 24(37.5)  | 47(36.7) |           |
|                              | <i>Multipara</i>     | 13(20.3) | 18(28.1)  | 31(24.2) |           |
| <b>Number of live births</b> | <i>0</i>             | 33(51.6) | 27(42.2)  | 60(46.9) | 0.390(*)  |
|                              | <i>1</i>             | 20(31.3) | 20(31.3)  | 40(31.3) |           |
|                              | <i>&gt;1</i>         | 11(17.2) | 17(26.6)  | 28(21.9) |           |

\*Fischer Exact Test was Used Where P-Values Equal to or Lower than 0.05 were Considered Statistically Significant

## Care seeking and Obstetric Information of PAC Participants

There was no significant difference in gestational age at the time of abortion based on either Last Menstrual Period (9.5 versus 9.1 weeks,  $p = 0.462$ ) or uterine size estimation (5.3 versus 5.1 weeks,  $p = 0.816$ ).

**Table 4.4: Care Seeking and Obstetric Information of 128 Post Abortion Women**

| Variables                      | Midwife counseled |          | Physician counseled |          | Difference (95% CI) | P-value |
|--------------------------------|-------------------|----------|---------------------|----------|---------------------|---------|
|                                | Mean              | Range    | Mean                | Range    |                     |         |
| Mean Duration                  | 2.6( $\pm 2.9$ )  | 1.0-14.0 | 3.2( $\pm 3.3$ )    | 1.0-14.0 | 0.5(-0.6-1.6)       | 0.369   |
| Gestational age (weeks)        | 9.5( $\pm 2.4$ )  | 4.0-12.0 | 9.1( $\pm 2.2$ )    | 4.0-12.0 | -0.3(-1.1-0.5)      | 0.462   |
| Gestational age (uterine size) | 5.3( $\pm 4.9$ )  | 0.0-12.0 | 5.1( $\pm 5.3$ )    | 0.0-12.0 | -0.2(-2.0-1.6)      | 0.816   |

The mean duration is the period between occurrence of abortion related problems and care seeking days. The mean duration was 2.6 days (SD

$\pm 2.9$ ) in the midwife counselling arm compared to a mean duration of 3.2 days ( $\pm 3.3$ ) in the physician led counselling group ( $p = 0.369$ ) (**Table 4.3**).

# Post Abortion Women’s Perceptions and Experiences on the Quality of Contraceptive Counselling.

## Technical Competence of Providers

Over two thirds (67.2%) of the respondents enrolled to midwives' care reported to have received very adequate counselling services while 62.5% of those enrolled to physicians' care were of similar opinion ( $p = 0.853$ ) (Figure 1). Despite that moderate

satisfaction, 95.3% (n=60) in the midwives' care and 93.8% (n=56) in the physicians' care, were willing to recommend the service received to a friends. 93.8% in the midwives' care and 96.9% in the physicians' care, felt safe undergoing the process.

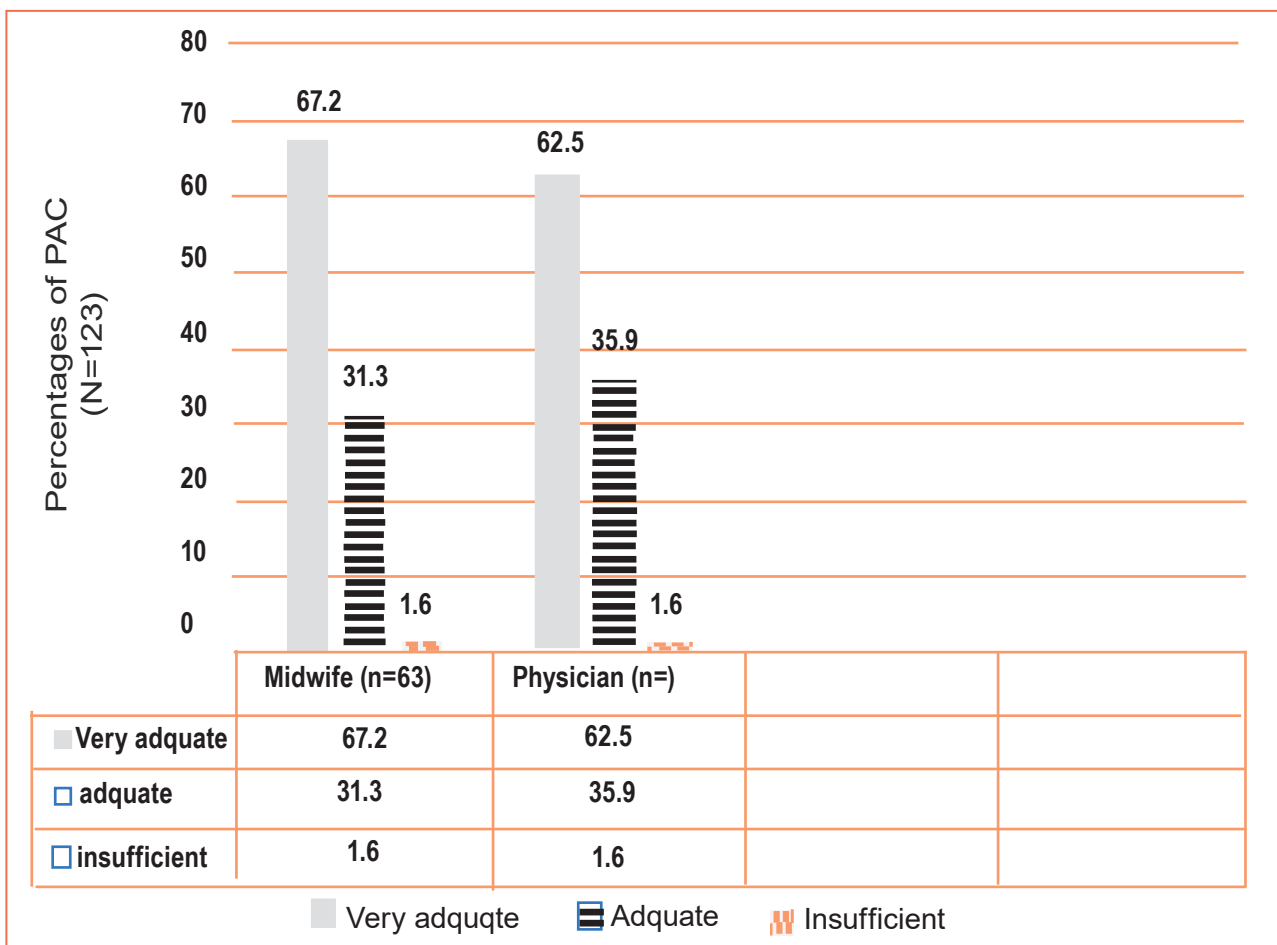


Figure 1: Women (N=123) Satisfaction with Post Abortion Counselling Services- Midwives and Physicians

## Contraceptive Adherence after Contraceptive Counselling

Three months after PAC, 123/128 the participants were traced. In this study, a woman was considered to adhere to contraception if she was using contraception 7 days after enrollment and still using contraceptives 3 months after enrollment.

Out of the 122 who were using contraceptives up to day 7, only 98 maintained their initial choice of contraceptives. At 3 months after enrollment,

25 changed their method while none stopped using contraceptives Only 5 had refused to use any type of contraceptive therefore did not participate in the study. Meaning, the overall rate of adherence to post abortion contraceptive methods did not change significantly after three months. 123 women out of 128 participants adhered to the method received in PAC after three months.

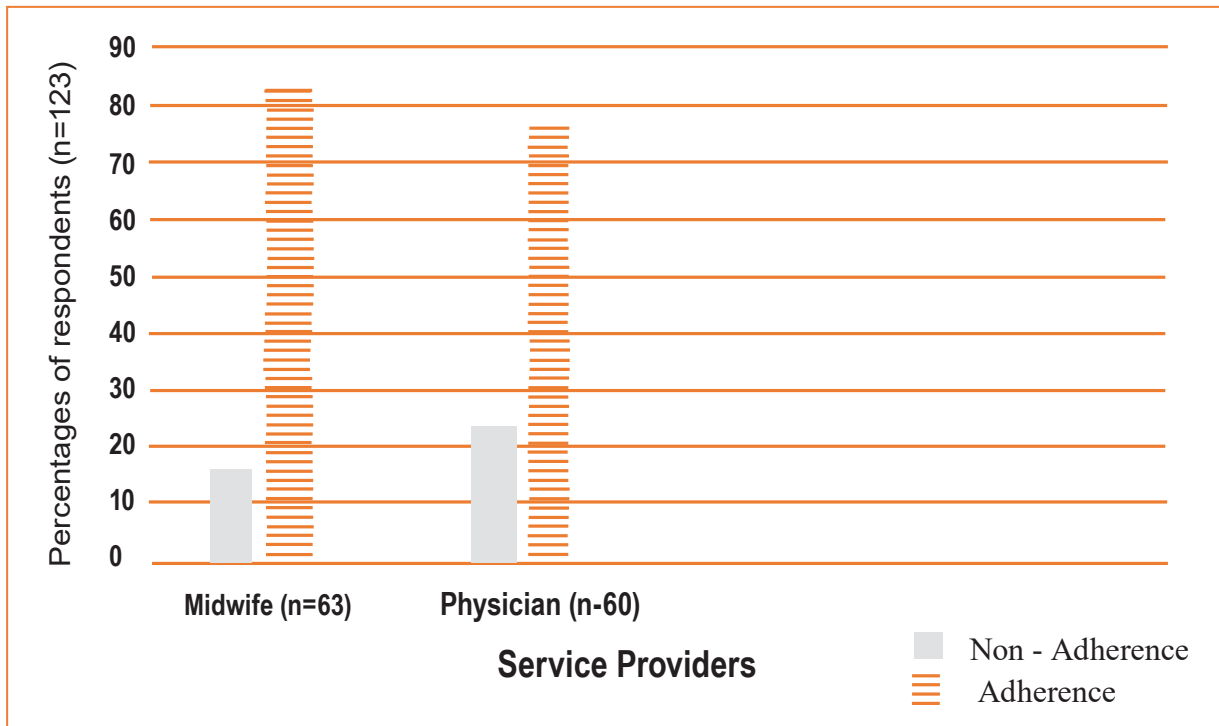


Figure 2: Post Abortion Women's (N=123) Adherence to Contraceptive Methods Assessed at 3 Months

There was no significant difference in contraceptive adherence at 3 months after enrollment between the respondents counseled by a physician or a midwife. Adherence rates of 76.4% and 83.6% respectively ( $p = 0.527$ ) were recorded (Fig. 2) above.

The respondents in two groups reported similar levels of satisfaction with the choice of contraceptive method at 3 months. However, only 56 percent were highly satisfied with the choice of contraceptives in both study care (Figure 3.) below.

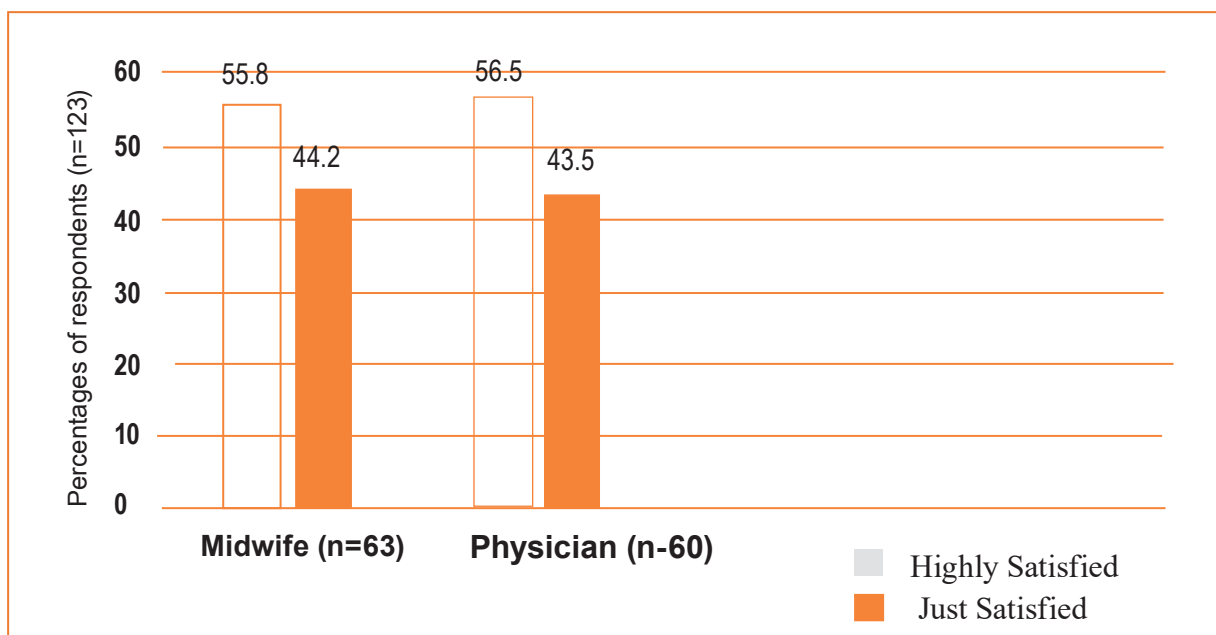


Figure 3: PAC Women's (n=123) satisfaction with Contraceptives Choice



## Discussion

### Contraceptive Uptake

In the study, 128 Post Abortion Women took part where 75 participants were using contraceptives and 53 were not using before PAC. After the initial counselling, 6 did not accept to use contraceptives and 122 accepted hence participated in the study.

After seven days, one participant among the 6 who refused started using them resulting to 123 respondents. Among the five respondents who did not use contraceptives, two of them wanted to get babies, one said that the spouse refused her to use any type of contraceptive while the other two did not give any reason for not accepting use of contraceptives. At 3 months, 98 participants maintained their initial choice of contraceptives while 25 changed to another type of contraceptive method.

Low use of LARC was also confirmed in the current study. An estimated 465,000 induced abortions, regularly using unsafe procedures, were found to have been performed in Kenya. In 2012, a rate of 48 per 1,000 women had gone through the vice. Out of the 465,000 women who underwent an induced abortion nearly 120,000 Kenyan women received Post Abortion Care (PAC) in health care facilities for complications resulting from unsafe abortions. Of these women, 70 percent were not using a contraceptive method before becoming pregnant [17]

Efforts to assist with contraceptive method selection and to improve the content of contraceptive counselling by providers have the potential to increase contraceptive use in urban Kenya. This need to be improved since LARC is very effective to prevent unintended pregnancy which lead to unsafe abortion. This was also recommended by WHO. The accessibility to low cost (or for free) must be improved and the procedure for how it is provided (should be offered/ provided directly in PAC, without referral procedures).

### Quality of Counselling Given by Physicians and Midwives

The study showed that, the women viewed the technical competence and knowledge of the healthcare providers in providing contraceptive counselling very

well. The respondents valued that knowledge because the providers were able to correct misconceptions and myths about contraceptives.

Performance outcome for midwives and physicians was comparable on two critical indicators of high quality post abortion care – contraceptive uptake and adherence.

In this study, both physicians and midwife-led counselling care displayed relatively high percentage (88%) post abortion contraceptive uptake and adherence in the initial three-month period. The Post Abortion Contraceptive uptake reported in this study was in the upper range of previous reports in large national and international studies in Africa and Asia between 42 and 86 percent uptake [3, 5, 12]

The differences in uptake between the current study and the previous evaluations could be explained by the design employed in the current analysis and the comparatively small size of the study.

Post Abortion Contraceptive uptake in the this trial reflected the effectiveness of PAC provided within the ideal conditions of a randomized trial. Despite the actual uptake in routine care settings (PAC program efficacy) reported in the larger studies using data from several healthcare facilities, across different countries and over considerably longer periods [4]

For the primary comparison in this study there were no significant differences in the uptake rates between Post Abortion respondents counselled by physicians compared to midwives (91.7% versus 88.7%, respectively). The primary findings were in agreement with that of a larger randomized trial conducted in the same setting that showed that midwives were as effective as physicians in treating incomplete abortion using misoprostol [11]

However, there are mixed findings on the influence of the type of PAC provider on contraceptive uptake. Particularly within studies conducted in sub-Saharan Africa. The finding of equal effectiveness in promoting contraceptive uptake reported in the recent study was at variance with that of a cohort study in Ghana that reported such type of abortion provider, latter, with women seen by midwives as more likely to receive contraceptives compared to those attended to by house officers or physicians [11, 12].





There were several plausible explanations for these inconsistent findings. Of greater credibility was the argument that performance reported in the previous trial, was based on effectiveness of a program for training both physicians and midwives on a PAC package. In spite of the study highlighting better midwives' performance in Ghana it reflects routine practice within which midwives might be better prepared to provide maternal and reproductive health care compared to physicians and non-physician clinicians.

The latter finding was expected and have consistently shown that equipping PAC providers with knowledge and skills to deliver services, leads to higher uptake of contraceptives. Despite a strong effect of age on post abortion contraceptive uptake has been reported in another Kenyan's study this was not the case in the previous analysis [18].

## Technical Competence

The study showed that the respondents viewed the technical competence and knowledge of the healthcare providers in providing contraceptive counselling as very good. The participants valued our knowledge because the providers were able to correct misconceptions and myths about contraceptives.

## Conclusion

The rapport created during contraceptive counselling between the service providers and the post abortion respondents had an impact on contraceptive uptake and adherence. It allowed participants to freely interact with the service providers. They felt that the Post abortion care including contraceptive counselling services was good and that they would recommend the services to other people. They continued with the contraceptive methods provided during counselling.

These factors enabled the post abortion respondents to embrace contraceptive use as a method of preventing pregnancy, and preventing repeat abortions. The study showed that midwives were as effective as physicians in providing contraceptive counselling to Post abortion women.

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