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FACTORS ASSOCIATED WITH UTILISATION OF POST ABORTION CARE SERVICES AMONG WOMEN OF REPRODUCTIVE AGE IN NAIROBI COUNTY- KENYA
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FACTORS ASSOCIATED WITH UTILISATION OF POST ABORTION CARE SERVICES AMONG WOMEN OF REPRODUCTIVE AGE IN NAIROBI COUNTY-KENYA

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ABSTRACT

Background: **Complications of abortion are a major contributing factor to maternal mortality, especially in Africa. 31% of maternal deaths in Nairobi are attributed to abortions complications. While Post abortion Care (PAC) is a proven approach in addressing mortality and burden of abortion complications, determinants of use among women who need the service, PAC health seeking behaviours, the health systems capacity to provide PAC and experiences of women and providers on PAC is not well documented. This study sought to address this gap.**

Objective: **To determine factors that influence utilization of PAC services among women of reproductive age in Nairobi County.**

Design: **Cross-sectional survey design which employed a quantitative data collection approach.**

Setting: **Mbagathi hospital and Mama Lucy Kibaki hospital.**

Subjects and Intervention: **Women of reproductive age attending reproductive health services at selected health facilities. The intervention was post abortion care.**

Results: **Single women are 62.5% (OR 0.375) less likely to seek PAC services than married women. Prior knowledge of post abortion care (PAC) services is a statistically significant determinant of seeking of PAC services (P <0.05). Women with prior knowledge about post abortion care (PAC) services are twice likely (O.R 2.318) to seek PAC services. Prior experiences, with Gender of health care provider while seeking PAC services (P-Value 0.044), waiting time (0.008) and service affordability (p<0.05) significantly determines whether one seeks PAC services or not.**

Conclusion: **Utilization of PAC services in Nairobi County is determined by experiences, perceptions, as well as individual level factors such as marital status.**

INTRODUCTION

While Post abortion care (PAC) is a proven approach in addressing the burden of mortality and morbidity arising from abortion complications [1], determinants of its use among women, health seeking behaviours, health systems capacity to provide the service and experiences of women and providers on PAC is not well documented. Abortion-related complications are an important and preventable cause of maternal mortality, accounting for 8–9% of maternal deaths worldwide, with 42 to 63 women dying out of every 100 000 abortions [2]. An estimated 2,600 women die from complications of abortion annually, which means seven deaths a day [3]. A recent national survey estimated that 465,000 induced abortions occurred in Kenya in 2012; 48 per 1000 women of reproductive age [4]. Complications of abortions puts a lot of strain in the already constrained Kenyan health system with the average cost of treatment for unsafe abortion estimated at USD 58 per client. This cost is even higher at USD 108 for severe complications [3]. From this statistics, complications of abortion, is a major contributing factor to the national maternal mortality ratio that currently stands at 362 deaths per 100,000 live births [5].It is stated that 31% of maternal deaths in Nairobi are attributed to abortions which are not properly managed [4]. Young women suffer disproportionately, as 45% of women aged 19 and younger who come to a health facility for post-abortion care, experience severe complications [6]. The health providers training and a supportive system in the provisionof a comprehensive PAC effectively improves women's access to PAC services [7]. Additionally, perceived patient centeredness, communication and autonomy received while seeking PAC services have shown to influence by a large extent utilization of PAC services [8]. There is need to better understand what drives PAC services use, women PAC seeking behaviours and health system preparedness for PAC in order to contribute largely to reducing maternal mortality and morbidity. If not addressed, complications from abortion, including from unsafe abortion will continue to claim more lives, a huge economic burden and put a strain on already stretched-out health care system. This forms the basis of this study whose goal is to determine what drives or deters women from using PAC services, the health systems capacity to provide PAC and experiences of women and providers on PAC.

MATERIALS AND METHODS

Study Design: The study adopted a facility based analytical cross-sectional study design which employed a quantitative data collection approach.

Study Area: The study was conducted in level 4 (Mbagathi hospital) and 5 (Mama Lucy hospital) health facilities in Nairobi County. These facilities are referral hospitals with a large number patients seeking post abortion care services.

Study Population: Women of reproductive age attending reproductive health services at selected health facilities. During the month of data collection, the selected hospitals had an average of 504 women of reproductive age (18-49 years) in their MCH Clinic.

Study Variables: The dependent variable was PAC. The independent variables were individual factors (age, marital status, income level, and Education level); health seeking behaviours (attitudes towards PAC, knowledge of PAC services and where to get services, and confidence in seeking services);

service delivery issues or facility capacity and preparedness; users and provider experiences in PAC.

Sample size and sampling: The sample was drawn from a target population of 504 women of reproductive age (18-49 years) using Mane et al. (2007) sample size calculation formula:

$$n = \frac{NZ^2pq}{e^2(N-1) + Z^2pq}$$

By substitution;

$$n = \frac{504 * 1.96^2 * 0.5 * (1-0.5)}{0.05^2(504-1) + 1.96^2 * 0.5(1-0.5)}$$

The calculated sample size was 219.

A 10% of 219 was added to cater for lost questionnaires, incomplete questionnaires and non- response. Therefore, a minimum of 241 women of reproductive age (18-49 years) sample size was used.

The study adopted convenience sampling to select one county in Kenya, where Nairobi County was selected. Then a cluster random sampling to create the sample frame among the 17 sub counties in Nairobi, to select two sub counties (Embakasi West Sub County, and Langata Sub County) due to time and resources. Using a list of public facilities available from Nairobi County, purposive sampling was used to select one level 4 (Mbagathi hospital) and level 5 (Mama Lucy Kibaki hospital) health facility. Proportionate stratification was used to select the sample size per health facility. A simple random sampling procedure was used to select the sample from the study population. . In this technique, each member of the population had an equal chance of being selected as a subject. The entire sampling process was done in a single step with each subject selected independently of the members of the population

Table 1

Proportionate sampling for quantitative sampling

Health facility		**Study population per month**	**Sample size**
Level 4	Mbagathi Hospital	231	115
Level 5	Mama Lucy Kibaki	273	126
	Total	**504**	**241**

Data Collection Instruments: A questionnaire was used as the primary data collection instrument for quantitative data.

Data Collection Procedure: Data was directly collected with the help of two well-trained research assistants.

Data management and analysis: Data analysis was conducted using Statistical Package for Social Sciences (SPSS) version 22. Descriptive statistics were used to summarize, organize, and simplify the data collected. Statistical testing for association was done using Pearson's Chi-Square test, p value set at $p<0.05$ level of significance. Odds Ratio (OR) and 95% Confidence Interval (CI) was used to estimate the strength of association between independent variables and the dependent variable.

Ethical Considerations: Ethical approval was sought from Ethical Review Committee at University of East Africa Baraton. Research permit was gotten from National Commission of Science Technology and Innovation (NACOSTI) and approval from Nairobi County government received. An Informed consent was developed and administered to the participants. The right to participate in the study or not rested with the respondents and

this was respected at all times during the study. Respondents were informed that it is their right to choose whether to participate in the study or not and even withdraw from the study at any time

RESULTS

Table 2 below shows the demographic characteristics of the study participants.

Table 2

Demographic characteristics of study participants

Age Brackets	**Freq. (n)**	**Perc. (%)**
18 - 24 years	15	6%
25 - 29 years	58	24%
30 - 34 years	93	39%
35 - 39 years	59	25%
40 - 44 years	14	6%
Total	239	100%
Marital Status	Freq. (n)	Perc. (%)
Married	201	84%
Single	37	15%
Divorced/separated	1	0.4%
Total	239	100%
Religion	Freq. (n)	Perc. (%)
Christian	225	94%
Islam	14	6%
Total	239	100%
Education Level	Freq. (n)	Perc. (%)
Secondary	183	77%
Tertiary(college, university)	38	16%
Primary	15	6%
No formal education	3	1%
Total	239	100%
Occupation	Freq. (n)	Perc. (%)
Self - Employed	99	41%
Housewife	73	31%
Employed	51	21%
Under family support	15	6%
Other	1	0.4%
Total	239	100%

History of Contraceptive Use: Majority of the respondents (97%) acknowledged having used at least on form of contraceptive while few (3%) indicated that they have never used

Injectable (53%) and/ or pills (51%) were acknowledged by more than half the respondents as forms of contraceptive ever used. About one third (33%) have used implants while more than one fifth (22%) acknowledged having used/ using condoms as a form of contraceptive. Nearly one third of the respondents (28%) acknowledged having been using a contraceptive at the time of conception while 72% noted otherwise.

Individual historical experiences in Seeking PAC Services: Only 94% of the study participants responded to whether they have ever lost a pregnancy in their lifetime. About one fifth (19%) acknowledged that they lost pregnancies either once (66%), twice (27%) or more times (7%). One third (31%) of the lost pregnancies occurred 3 years before this study was conducted while 28% occurred either 2 years or 1 year prior to this study. The majority of the pregnancy loss were as a result of sepsis (73%) while half 951%) were due to chronic pelvic pain.

Post Abortion Experience and Care: Table 4 below gives a summary of the participants' post abortion experiences and care.

Table 3

Post abortion experience and care

		Freq. (n)	**Perc. (%)**
Did you experience any complications after the loss of pregnancy	No	213	95%
	Yes	11	5%
What were some of the complications you experienced after you lost pregnancy? */(N=11)*	Sepsis	6	55%
	Chronic Pelvic Pain	3	27%
	Miscarriage Or Preterm Delivery	2	18%
	Incomplete Evacuation of The Products of Conception	1	9%
	Abdominal Injury	1	9%
	Damage To Genital and Internal Organs	0	-
	Haemorrhage	0	-
	Tubal Blockage	0	-
	Infertility	0	-
	Increased Risk of Ectopic Pregnancy	0	-
	Other	0	-
What did you do after you experienced the complications?	Sought immediate medical care	10	91%
	Sought from traditional healer	1	9%
Where did you seek care after the complication?	Public facility	4	36%
	Public health facility	4	36%
	Pharmacy	1	9%
	Public facility, traditional healer	1	9%
	Traditional healer	1	9%

Perception of PAC users on the healthcare system's ability to offer quality care: Up to 4 in every 5 medical care procedures were conducted in operating theatres (83%) with 17% being conducted in Wards. The majority (99.6%) of the respondents reported that there is assistance available in the procedure room and that they were provided room to rest after procedure (99%). Besides, 99% reported that they were assisted to the recovery room after the procedure. During the procedure, 99% reported that they felt pain during procedure with fewer proportion (85%) reporting to have been given medication for pain control.

Before leaving the health facility, 92% of the respondents reported that they were provided with counselling mainly in counselling rooms (98%). All the respondents who reported that

they were not provided with counselling equally reported that they were not referred to any other health facility for the services (100%). Meanwhile during the counselling sessions, there were not less than 4 people and not more than 5 people in counselling room as reported by more than half (56.2%) of the respondents. Further, 61% of the respondents reported interruptions during counselling session while 2 in every 5 (41%) reported lack of adequate confidentiality since their issues were overheard by third parties during the counselling sessions. Nevertheless, majority (92%) of the respondents reported satisfaction with the privacy of the counselling room. Upon the completion of the counselling services, 92% of the respondents were reassured of confidentiality of information and treatment records.

Perception of PAC users on the healthcare system's ability to offer quality care:

Majority of the respondents (99.6%) reported that they paid money for services they received with 95% reporting that the cost was affordable. Majority of the respondents (61%) reported that they had to wait for between 20 and 30 minutes before they were attended to while 16% were attended to immediately. Those who had to wait the longest (more than 30 minutes) were only 1%.

Experiences in utilization of PAC services: Majority (85%) reported to have been attended to by both male and female health care providers. However, 11% were attended to by male health providers while few (4%) had female health attendants. Nevertheless, 60% of respondents prefer female attendants 40% prefer male. Interaction with health care providers had a positive feedback by the respondents with almost all the respondents reporting good treatment by healthcare providers (99%) as well as concerned by the health providers on the cause of their problem (99.6%).. Very few reported to have noticed use of abusive language (5%) during service provision nor received blame from anyone for their conditions (6%).

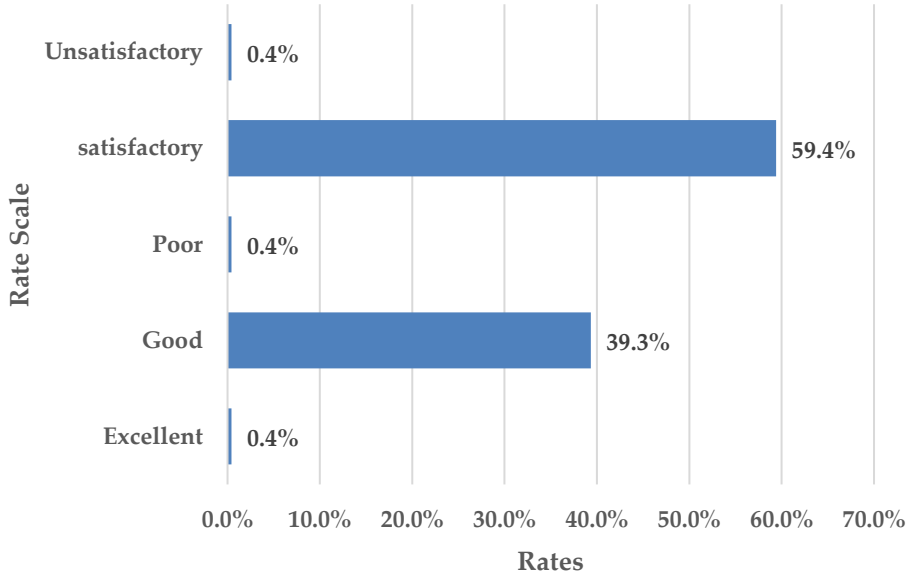

Figure 1: Service provider interaction

Table 4 below shows participants' response on follow-up information given:

Table 4
Follow-up Information

	No	Yes
Provider advised to return for routine follow-up care	3% (6)	**97% (233)**
Provider advised the need for routine follow-up care	2% (4)	**96% (229)**
Provider advised where to return for follow-up care	2% (4)	**96% (229)**
Provider advised on importance of seeking *medical attention* should problems arise	3% (6)	**97% (233)**

On whether participants would recommend others for the services, 69% indicated that they would recommend others for similar services while 31% responded to the contrary.

Tests of Association: Association between PAC services utilization and individual factors, PAC seeking behaviours as well as experience in PAC service utilization were tested at 95% level of significance using the Pearson Chi-Square test. The outcome variable was a consolidation of whether one has sought PAC services or whether they have ever sought help somewhere else for the same services before you went to a health facility. From the Pearson-Chi Square test results, marital status, as well as experiencing complications after loss of pregnancy are determinants of PAC service seeking. The two independent variables had Probability Values (P-Value) of *0.018* and *0.021* respectively. Prior knowledge of post abortion care (PAC) services is a statistically significant determinant of seeking of PAC services (p= 0.012). Prior experiences while seeking PAC services (P=0.044), waiting time (p=0.008) and service affordability (p<0.001) significantly determines whether one seeks PAC services. To further understand the influence of the statistically significant independent factors on PAC services seeking, bivariate logistic regression analysis was carried out at 95% significance level. The following findings were made: 1) Single women are 62.5% (OR 0.375) less likely to seek PAC services compared to the married women; 2) Women with prior knowledge about post abortion care (PAC) services are twice likely (O.R 2.318) to seek PAC services compared with those with no prior knowledge; 3) Women who find the waiting time before receiving care as satisfactory are twice (O.R 2.055) likely to seek PAC services compared to those who experience longer waiting time.

DISCUSSION

Half of unmarried/ single respondents noted that they have never sought PAC services with close to one third of the married acknowledging otherwise. Further analysis established a statistically significant association between marital status and tendency to seek PAC services (P=0.018). It was established that single women are 62.5% less likely to seek PAC services compared to the married women.

Although religion was a statistically insignificant factor affecting PAC services seeking in this study (P=0.746), more women and of close to similar proportion reported to have utilized the services. Social demographic factors have been found in other previous studies not to influence PAC service utilization.

About two third of respondents with Primary, Secondary and Tertiary education level acknowledged to have utilized PAC services in

the past with about one third stating otherwise. Education empowers a woman to make informed choices on how and when to have children. Further, education could have been a factor that led to more women seeking PAC services in Nairobi as women who have higher education levels are more often economically empowered thus able to seek safer abortion services [9].

Although education being statistically insignificant determinant in PAC services patterns in this study (P=0.594), the incidents reported indicated that more women (about two third) with the three levels education tend to seek PAC services compared to those who do not.

Women having prior knowledge about post abortion care (PAC) services is a statistically determinant factor influencing utilization of PAC services (P=0.012). Women who have prior knowledge about PAC services are twice likely (O.R 2.318) to seek the services compared to those who do not have such knowledge. Further, majority of women who have ever used a contraceptive method equally acknowledged that they have ever utilized PAC services although the use of a contraceptive method was an insignificant determinant of PAC service utilization.

Women's opinion on the Gender of health PAC service provider was found to be a statistically significant PAC Service utilization determinant factor. Although on bivariate regression analysis the Odds Ratio (O.R 1.218) had an insignificant probability value (P= 0.484), women in Nairobi County are 21.8% more likely to use PAC services when the attendant is female. Although feeling comfortable with PAC service provider was a statistically insignificant factor influencing PAC service utilization (P = 0.123), incidences of PAC services utilization were commonly reported among women who acknowledged feeling comfortable with service providers.

Waiting time before receiving PAC care service as well as affordability of the services are statistically significant factors influencing PAC service utilization among women in Nairobi County. More than 7 in every 10 respondents who reported satisfactory waiting time and/ or affordable PAC services equally reported utilizing PAC services.

The strength of this study is its ability to influence policies by the Ministry of Health to enhance quality PAC services. PAC studies conducted in the country are very limited and even fewer in Nairobi. Recognizing the impact of PAC in contributing to quality of life and health of women, the study would contribute to the health and well-being of women in Nairobi and country at large if policy recommendations are operationalized. Kenya is currently in the process of implementing primary healthcare towards achievement of Universal Health Coverage (UHC). Some of the PAC services such as contraceptive use are actually UHC services. The study will therefore contribute to the realisation of UHC in Kenya.

The limitation of the study is that abortion is still illegal and defining abortion and PAC is still a challenge both for communities and among the health care workers. This has a direct impact on the study since most respondents would give responses that would not implicate them for the conduct of abortion. This put the study at risk of cognitive bias. This limitation was mitigated by ensuring that ethical considerations were strictly adhered to, more so anonymity, and confidentiality of participants. The potential effect of that in this study is the likelihood of participants not being completely honest in their responses. The data collection for this study was conducted at the epicentre of Covid-19. During this time, most

people including women kept away from health facilities. It was therefore not easy getting the numbers as quickly as was anticipated. This was dealt with by extending the data collection period.

CONCLUSION

Utilization of PAC services in Nairobi County is determined by experiences, perceptions, as well as individual level factors such as marital status. Experiencing complications after pregnancy loss has a direct influence on PAC service utilization among women in Nairobi County. Women who have prior knowledge about PAC services in Nairobi County are more likely to seek the services compared to those who lack. Women in Nairobi County are more likely to use PAC services when the attendant is female. Waiting time before receiving PAC care service is a statistically significant factors influencing PAC service utilization among women in Nairobi County. Affordability of the services is a statistically significant factors influencing PAC service utilization among women in Nairobi County. The implication of this study is to improve PAC services quality and increase utilization. Based on the study findings, recommendations include fostering awareness among all woman to increase utilization of PAC services, training healthcare providers on provision of quality PAC services to enhance community positive attitudes considering their social and educational background and ensuring provision of PAC services in a standard record time.

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