



## Socio-Demographic Characteristics Associated with Self-Induced Abortion with Misoprostol in Uasin Gishu County

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### Abstract

#### Background

There are attempts to increase its community access to misoprostol in Kenya. However, several factors may hinder such a health-seeking behaviour. And to date, there are no documented evidences examining individual-level factors that may influence self-administration of the drug in Uasin Gishu County or any other part of Kenya.

#### Objective

This study examined the socio-demographic characteristics associated with self-induced abortion with misoprostol among women presenting themselves with abortion related complications in public health facilities in Uasin Gishu County in Kenya.

#### Material and Methods

From the sample, the study identified women who had induced their pregnancy with misoprostol. The association between self-induced abortion and the socio-demographic variables was then analysed using the Pearson Chi-square test. Significant variables were subjected to regression analysis after controlling for confounding. Odds Ratio (OR) with confidence interval (CI) was used where possible to ascertain the extent of the association.

#### Results

The prevalence of self-induced abortion with misoprostol in the County was 25.6% (137). Women who had not completed primary school were .292 times more likely to self-induce their pregnancy with misoprostol, (OR, .292; 95% CI = .10, .83;  $p = 0.021$ ).

#### Conclusion

The prevalence of self-induced abortion with misoprostol was relatively low. The study also observed that women who had not completed primary school were more likely to self-induce their pregnancy with misoprostol.

**Keywords:** Misoprostol, Unsafe abortion, Abortion, Uasin Gishu, Self-induced abortion with misoprostol

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### 1.0 Introduction

Abortion is outlawed in Kenya and is only permitted if the pregnancy threatens the life of the mother or the unborn baby (1). However, the outlawing of abortion does not hinder many women from seeking or illegally inducing their pregnancies (2). And for so many women, surgical methods remain their preferred choice (3). However, surgical procedures are expensive (4). Fear, stringent laws and stigmatisation surrounding

abortion issues makes surgical procedures inaccessible to many women (5).

Misoprostol provides a 'better' alternative to women who find it difficult to access surgical 'routes' (2). The drug is relatively affordable, readily available, and easy to administer (6,7). It also reduces the high risks of infections and reproductive tract injuries attributable to inadequate surgical procedures (8). Making it an ideal choice for women seeking clandestine abortions,

especially in settings where abortion is restricted or outlawed (6,9).

The number of trained health workers capable of administering misoprostol has increased tremendously in Kenya (8). Following the approval of misoprostol and its inclusion in the National Essential Medicine List (10). There are also attempts to increase community access to misoprostol through community distribution (7).

This call is supported by documented evidence that has shown that women can safely administer the pill with minimum or no medical supervision (6,9). However, several factors may hinder such health-seeking behaviour. These include the woman's age, marital status, parity, education level and employment status (11). To date, there are no documented evidences that have examined how these factors influence the self-administration of the misoprostol in Kenya.

Therefore, this study sought to examine the socio-demographic characteristics associated with self-induced abortion with misoprostol among women presenting themselves with abortion related complications in public health facilities in Uasin Gishu County in Kenya.

## **2.0 Material and Methods**

### **2.1 Study Area**

Specifically, it targeted public health facilities classified as level III and above.

### **2.2 Study Population**

All women who presented themselves in the targeted health facilities with induced abortion-related complications were recruited.

### **2.3 Study Design**

The cross-sectional study took two months from 1st December 2017 to 31st January 2018.

### **2.4 Sampling Procedure**

Of the 19 health facilities, eight (42.1%) agreed to participate in the study. Five were classified as level III facilities (n = 5; 31%), two-level as IV (n = 2; 100%) and one was a level VI facility (n = 1; 100%). All the patients who participated in the study consented in writing.

#### *2.4.3 Inclusion Criteria*

Only patients residing in the County and those managed as per the National Post Abortion Care (PAC) Guidelines (12) were recruited.

#### *2.4.4 Exclusion Criteria*

Any patient identified as having had spontaneous abortion or miscarriage was excluded.

## **2.5 Data Collection Procedure**

Data collectors were trained on the administration of the questionnaires one week before commencement of data collection. The data collectors used the waiting time in the waiting bay to inform the patients about the ongoing study and seek consent from individual patients.

A part from the socio-demographic characteristics of the patients reported in this study, the team also took records of the reproductive and clinical histories, diagnosis, treatment and clinical procedures undertaken, post-abortion contraception and management of outcomes. The findings of these outcomes are reported elsewhere.

From the sample, the study identified women who had induced their pregnancy with misoprostol. The study defined self-induced abortion with misoprostol as follows. The patient or someone without medical knowledge bought misoprostol tablets without prescription with a view of assisting the patient terminate her pregnancy. Alternatively, the patient did not visit any registered health facility licensed to dispense misoprostol for consultation. The study relied on self-reporting by the patient.

## **2.7 Data Collection Tools**

Data was collected using a pre-tested interviewer-administered questionnaire. The study adopted the questionnaire from a nearly similar previous study (13,14). It then underwent modification to obtain a final and workable questionnaire that was used in this study.

## **2.7 Data Management and Analysis**

The collected data was collected on a daily basis then summarised in tables. And at the end of every week, the summarised sheet from different study sites was validated and compiled. The association between self-induced abortion and the socio-demographic variables was then analysed using the Pearson Chi-square test. Significant variables were subjected to regression analysis after controlling for confounding. Odds Ratio (OR) with confidence interval (CI) was used where possible to ascertain the extent of the association.

## **2.9 Ethical Consideration**

The study sought ethical review and consideration from Moi University College of Health Sciences and MTRH IREC. It received a provisional approval on 11th April 2017 and a full approval on 16th June 2017 (FAN: IREC 1987). The researchers also sought permission at the facility. All responses were anonymous and confidential.

Participation was also purely voluntary after the patients had consented in writing. For the case of underage participants, the research team sought consent from their parents or guardians. No patient

was victimised, denied health services or discriminated against for refusing to participate in the study.

### 3.0 Results

#### 3.1 Recruitment Process of the Study Participants

One thousand three hundred and seventeen patients sought PAC services from the eight participating health facilities during the study period. This figure represented 36.0% of 3,659 women who visited the gynaecology and obstetrics clinic from 1st December 2017 to 31st January 2018. Of the 1,317 patients, 19 (1.4%) had a miscarriage, 39 (3.0%) had a spontaneous abortion, and 618 (46.9%) were not a residence of Uasin Gishu County. The 676 patients were, therefore, excluded from the study as per the exclusion criteria.

The researchers approached the remaining 641 (48.7%) patients. And 489 (76.2%) patients consented to the study. Of the 489 patients, 463 (94.7%) completed the health facility assessment, 5 (1.0%) withdrew from the study citing legal and personal reasons, while 21 (4.3%) provided incomplete data. The uncompleted data included refusal to disclose the reproductive history and the method used to terminate the pregnancy.

The findings reported herein are of the 463 patients who completed the assessment. This number represented 72.2% of the 641 patients who met the inclusion criteria. And it represented 94.7% of the 489 patients who consented to the study. Most of these patients sought PAC services from Level VI facilities ( $n = 301$ , 65.0%). Figure 1 summarises the recruitment process of the 463 patients.

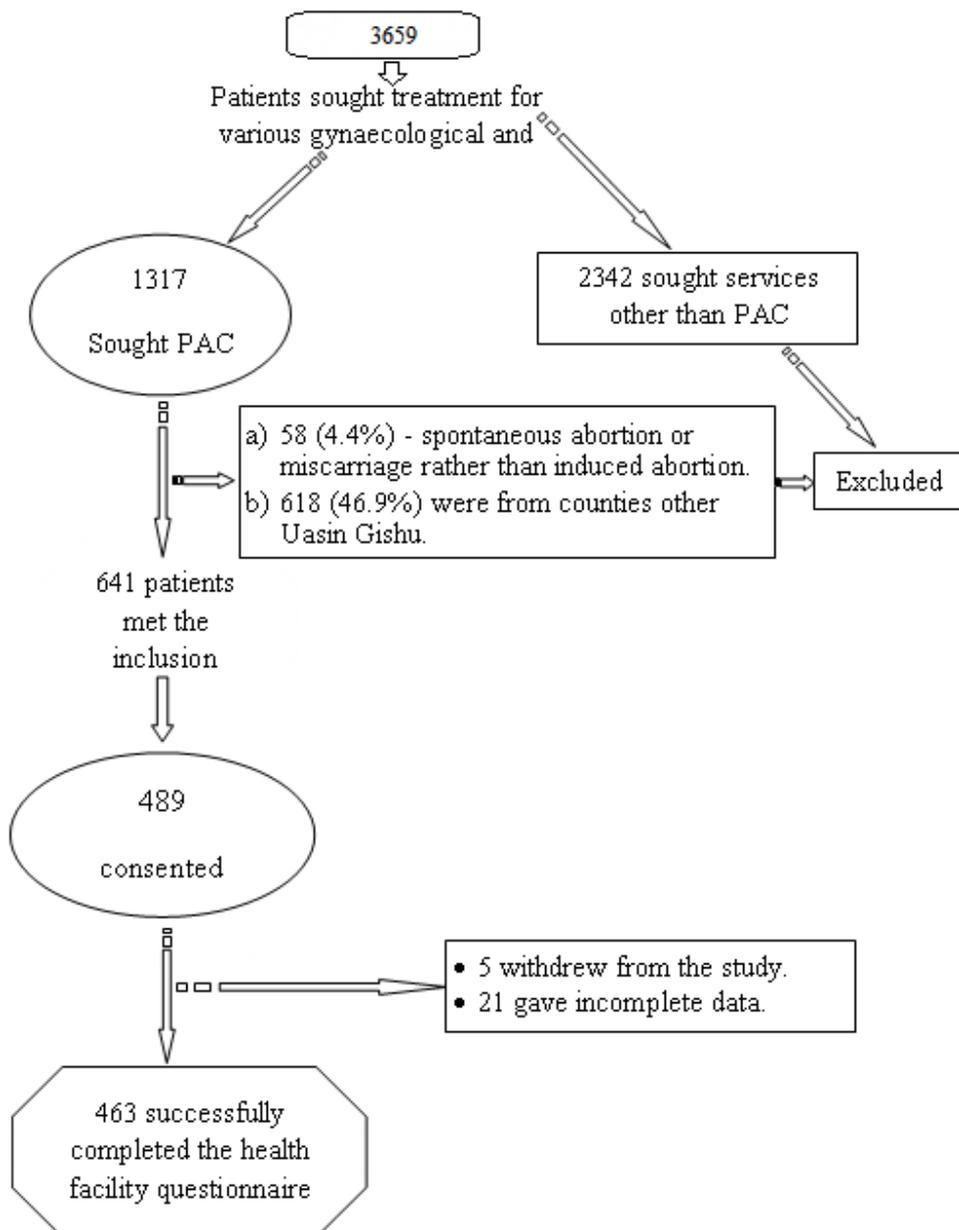


Figure 1: Recruitment process of the study participants

### 3.2 Prevalence of Self-Induced Abortion with

Of the 463 patients, 137 (25.6%) had self-induced their pregnancies with misoprostol. The remaining 326 (70.4%) had used other methods. Four had exerted pressure on their abdomen to expel the foetus (1.2%), 161 overdosed or self-prescribed themselves medicines other than misoprostol (49.4%), while 13 inserted sharp objects in their vaginas to try and “open up” their uterus (4.0%). The remaining 50 had taken ‘harmful’ chemicals like livestock hormonal growth medicines, e.t.c (15.3%), and 98 had visited a medical practitioner who prescribed some medicinal products or performed some procedures to end the pregnancy (30.1%).

### 3.3 Socio-demographic Characteristics of the Clients

The socio-demographic variables were first cross-tabulated using Pearson chi-square test. No

### Misoprostol

significance association was established between self-induced abortion with misoprostol and the age of the patient,  $\chi^2$  (5, N = 463) = 1.58,  $p = .904$ ; the place where the patient resided,  $\chi^2$  (1, N = 463) = .14,  $p = .704$ ; religion,  $\chi^2$  (3, N = 463) = 4.51,  $p = .211$  and the occupation of the patient,  $\chi^2$  (4, N = 463) = 1.29,  $p = .864$ . However, the patient level of education was found to be associated with self-induced abortion with misoprostol,  $\chi^2$  (6, N = 463) = 16.03,  $p = .014$ . The variable was therefore entered into binary regression to ascertain if any of the seven levels of education under study might predict higher odds of self-induced abortion with misoprostol.

Table1: Socio-demographic Characteristics of the Client

Characteristics of the Patients	Method used to induce abortion		Chi-Square	p-value
	Self-Induced with Misoprostol n = 137 (25.6%)	Induced with other Methods n = 326 (70.4%)		
Mean	3.28	3.67		
SD	2.02	2.11	-	-
95% C.I. for mean	2.94-3.62	3.44-3.90		
Age				
≤ 18	2 (40.0)	3 (60.0)	1.58	.904
19 – 26	57 (28.2)	145 (71.8)		
27 – 32	47 (32.9)	96 (67.1)		
33 – 38	21 (28.0)	54 (72.0)		
39 – 44	9 (27.3)	24 (72.7)		
≥ 45	1 (20.0)	4 (80.0)		
Residence				
Urban	104 (30.1)	242 (69.9)	.14	.704
Rural	33 (28.2)	84 (71.8)		
Education				
No education	20 (25.0)	60 (75.0)	16.03	.014*
Incomplete primary	5 (15.2)	28 (84.5)		
Completed primary	4 (19.0)	17 (81.0)		
Incomplete secondary	5 (15.2)	28 (84.2)		
Completed secondary	21 (24.4)	65 (75.6)		
College (mid-level)	26 (28.0)	67 (72.0)		
University	33 (38.0)	54 (62.0)		
Religion				
Roman Catholic	5 (17.2)	24 (82.8)	4.51	.211
Protestant	132 (30.8)	297 (69.2)		
Muslim	0 (0.0)	3 (100.0)		
Atheist	0 (0.0)	2 (100.0)		

Table 1: Cont'd

Occupation				
Skilled manual	7 (38.9)	11 (61.1)	1.29	.864
Unskilled manual	50 (30.9)	112 (69.1)		
House wife	41 (28.5)	103 (71.5)		
Professional	36 (28.6)	90 (71.4)		
Unemployed	3 (23.0)	10 (77.0)		

\*Significant value,  $p \leq .05$  at 95% C.I.

In comparison to the patients who were educated up to the university level, women who had not completed primary school were .292 times more likely to self-induce their pregnancy with misoprostol, (OR, .292; 95% CI = .10, .83;  $p = 0.021$ ). It was noted that women educated to college level (mid-level), (OR, .635; 95% CI = .34, 1.19;  $p = 0.155$ ), those who had

completed secondary (OR, .537; 95% CI = .28, 1.04;  $p = .063$ ) or primary education (OR, .36, 95% CI = .11, 1.17;  $p = .089$ ), those who had not completed secondary school (OR, 1.31, 95% CI = .68, 2.53;  $p = .423$ ), or had no formal education (OR, .55, 95% CI = .28, 1.06;  $p = .074$ ) were not likely to self-induce their pregnancies with misoprostol. See Table 2.

Table 2: Binary regression analysis of the education level of the patients

	B	S.E.	df	Sig	Odd Ratios	95% C.I.	
						Lower	Upper
University			6	.016*	Ref		
College (Mid-level)	-.454	.320	1	.155	.635	.34	1.19
Completed Secondary	-.622	.335	1	.063	.537	.28	1.04
Incomplete Secondary	.269	.336	1	.423	1.310	.68	2.53
Completed Primary	-1.012	.595	1	.089	.360	.11	1.17
Incomplete Primary	-1.230	.533	1	.021*	.292	.10	.83
No formal education	-.606	.340	1	.074	.550	.28	1.06
Constant	-.492	.221	1	.026	.61		

\*Significant at 95% C.I.

## 4.0 Discussions

### 4.1 Recruitment Process of the Study Participants

Abortion is illegal in Kenya and is only permitted to a certain extent by the law (15,16). The restrictive laws and the social stigma surrounding abortion issues more often compel many women to seek abortion services outside their communities (17). This finding was not unique to this study. Considering that, about a half (46.9%) of all the patients identified to have induced their abortions resided outside Uasin Gishu County.

Interestingly, the majority of these patients sought PAC services from higher-level facilities. Most probably due to the perceived notion by many Kenyans that these facilities are well equipped and have well trained and specialised health care personnel (18). And this translates to quality medical services. On the contrary, lower-level facilities have equal capabilities to offer PAC services just like their higher-level facilities (14).

Therefore, the Government and other stakeholders in the health sector should strive to educate the public

that they can still obtain the same kind of PAC services in the higher-level facilities from the lower ones. This move will help to ease the number of patients flocking level VI facilities in search of PAC.

### 4.2 Prevalence of Self-Induced Abortion with Misoprostol

This study reported a low number of women who had used misoprostol to terminate their pregnancies. This study reported a low number of women who had used misoprostol to terminate their pregnancies. This figure is a comparison to those reported in other countries like Ghana (11) and the United States (19). However, there is likelihood that our study underreported the proportion of self-induced abortion with misoprostol. Misoprostol has a high success rate of about 80 per cent and fewer cases of complications arising from the use of the drug (20). Thus, a large proportion of women who might have self-induced their pregnancy with the pill may not have developed complications. Hence, they did not need to visit a health facility. It is

also possible that some might have developed complications but did not seek treatment. Either out of fear, stigmatization or considered their injuries mild to warrant any treatment. Or they treated their injuries at home by self-medication.

It is, therefore, possible that the previous media reports that raised concerns over the increasing numbers of self-induced abortions with misoprostol in the country may be accurate (21). However, what is worrying is the high number of unsafe abortions reported in our study. And it is a trend that seems to have refused to dwindle over the past years (14,22). Therefore, there is a need to sensitize the public about safe abortion methods like the usage of misoprostol.

#### 4.3 Factors Associated with Self-Induced Abortion with Misoprostol

This study reported an association between patients' education and self-induced abortion with misoprostol. A finding that is similar to a study conducted in Ghana (11). However, contrary to our study which found that women with no basic education are more likely to self-

induce their pregnancy with misoprostol, the finding of the study in Ghana was actually the opposite. Similarly, unlike the study in Ghana, this study did not find age, religion and occupation to be associated with self-induced abortion with misoprostol.

There were scarcities of similar studies which we could use to compare our findings. We, therefore, recommend further studies in this area. We believe that doing so will help shed more light on the facilitators and barriers to the uptake of this critical health-seeking behaviour. These findings may help in designing interventions geared towards improving the self-use of misoprostol at the community level.

#### 5.0 Conclusions

The prevalence of self-induced abortion with misoprostol was relatively low. The study also observed that women who had not completed primary school were more likely to self-induce their pregnancy with misoprostol.

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### Competing Interests

The authors declare that they have no competing interests.

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