

Unsupervised medical abortion with misoprostol among adolescent—what is the prospect of demedicalise abortion in Sub-Saharan Africa?

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Received 20 October 2011; revised 21 November 2011; accepted 6 December 2011.

ABSTRACT

Objective: To find out clinical presentation and outcome of unsupervised use of misoprostol as abortifacient among adolescents presenting with abortion complications. **Methods:** Case series of thirty one adolescents that presented with abortion complications following unsupervised use of misoprostol. **Results:** Over a period of 3 years, 31 adolescents were seen, with median age of 17 years. Twenty nine (93.5%) were unmarried and 22 (71%) were in secondary school. Pregnancy duration was 3months and above in 23 (74.2%) of the patients. The cumulative dose of misoprostol tablet ingested was 2 (400 µg) in 17 (54.8%) of the patients. Twenty three (74.2%) patients presented with incomplete abortion with mild sepsis while the remaining 8 (25.8%) patients were admitted and managed with incomplete abortion with severe sepsis. Treatments offered were manual vacuum aspiration in 23 (74.2%) patients, evacuation of retained product of conception under anaesthesia in 7 (22.6%) patients and 1 (3.2%) patient had laparotomy with uterine repair following inadvertent uterine perforation complicating curettage for incomplete abortion. Complications encountered were anaemia 67.7%, uterine perforation 3.2%, blood transfusion 9.7% and diarrhoea in 8 (25.8%) patients. **Conclusion:** Demedicalise abortion with misoprostol due to improper dosing protocol may be associated with incomplete abortion and its sequelae in an uninformed adolescent population. Establishment of adolescent friendly medical centre that offers post abortion care will go a long way in alleviating this problem.

Keywords: Demedicalise Abortion; Misoprostol; Adolescent; Medical Abortion

1. INTRODUCTION

The current generation of adolescents are more than a billion and they will be the largest generation in history making the transition from children to adulthood [1]. The transition period of adolescence is characterized by the onset of sexual relationships, marriage and child bearing. However, the biological and social impact of sexual activity in adolescence is associated with more consequences in females than their male peers [1]. These consequences have been shown to conspicuously and untowardly shape the future of the female adolescent.

The changes in population dynamics resulting in migration to urban settlements and postponement of childbearing to allow for career attainment, has made pregnancy and childbearing at very early ages an unfavorable and an uncherish tradition contrary to what it was generations ago. The resultant delay in marriage coupled with low contraceptive prevalence typical of most developing countries, results in unwanted pregnancy [2]. It is estimated that nearly 70,000 women die annually from complications of unsafe abortion around the world. Over 69,000 of these deaths occur in developing countries while 23,000 occur in sub-Saharan African countries alone, representing an estimated 680 deaths per 100,000 abortion procedures in Africa [3].

Misoprostol, an orally active prostaglandin E1 analog was introduced into Nigeria medical practice for the management of peptic ulcer disease and lately for the prevention of postpartum haemorrhage. However, other countries have extended its use to some women problems like abortion, uterine evacuation and labour induction [4]. In Nigeria, the restrictive abortion law in place may encourage unsupervised use of misoprostol as an abortifacient. With this background, we studied adolescents presenting with complications of abortions following the use of self prescribed misoprostol in an at-

tempt to induce an abortion.

2. METHODS

This was a descriptive observational case series of 31 adolescents that presented with complications of abortion following unsupervised use of misoprostol as an abortifacient. The patients were managed in Ahmadu Bello University Teaching Hospital, 345 Aeromedical Hospital and Alba Hospital, all located in Kaduna city, Northern Nigeria. The patients were seen between January 2005 and December 2008. All the patients obtained misoprostol medication without prescription. The cases were divided into 2 categories; mild and severe complications. Mild cases include those \geq with temperature less than 100 F with absence of rigors, shock or generalized peritonitis. Severe cases are those with impending/early endotoxic shock, temperature greater than 100 F or subnormal, generalized peritonitis and evidence of bowel or bladder injury. For this study, anaemia was defined as hemoglobin level less than 10 grams per deciliter. The patients all had ultrasound examination to confirm incomplete abortion. Duration of pregnancy expressed in months was based on patient's estimation from last menstrual period.

The patients were either managed as out-patient or in-patient basis. Out-patient management was offered to those with mild cases and these include: uterine vacuum aspiration, oral antibiotic, analgesia, and oral haematinics for those with mild anaemia. Those with severe conditions were managed as in-patient. In-patient management included evacuation of retained product of conception under anaesthesia, intravenous fluids, parenteral antibiotics and blood transfusion depending on the severity of anaemia. Results are presented in numbers and percentages.

3. RESULTS

Over a period of 3 years, 31 patients with incomplete abortion following unsupervised use of misoprostol as abortifacient were seen. The median age was 17 years with age range of 14 to 19 years. Twenty nine (93.5%) were single and 2 (6.5%) are married. The 2 married patients were both less than 6 months into marriage. Twenty two (71.0%) were secondary school students and 9 (29.0%) were apprentice learning a vocation (**Table 1**).

Range of pregnancy duration was 1 to 6.5 months. Of the 31 patients, 17 (54.8%) used an oral cumulative dose of 2 (400 microgram) misoprostol tablets, followed by 1 (200 microgram) tablet in 8 (25.8%) patients and 3 (600 microgram) tablets in 6 (19.4%) (**Table 1**). The peak duration of pregnancy before ingesting misoprostol was 3 months (17 patients, 54.8%), followed by 4 months or above in 6 (19.4%) patients (**Figure 1**).

Table 1. Profile of patients.

VARIABLE	N = 31	%
AGE (YEARS)		
<13	0	0
14 - 16	13	41.9
17 - 19	18	58.1
MARITAL STATUS		
Single	29	93.5
Married	2	6.5
OCCUPATION		
Secondary School	22	71.0
Apprentice	9	29.0
TOTAL DOSE OF MISOPROSTOL USED		
1 tablet	8	25.8
2 tablets	17	54.8
3 tablets	6	19.4

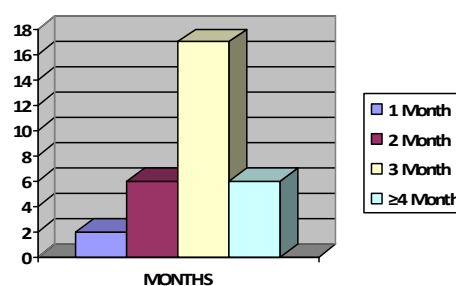


Figure 1. Bar chart of number of patients versus duration of pregnancy in months.

At presentation, based on the criteria, 23 (74.2%) patients were classified to have mild incomplete septic abortion and 8 (25.8%) patients with severe incomplete septic abortion (**Table 2**). None of the patients had been on antibiotics before presenting to the hospital. Time interval between ingestion of misoprostol to presentation in the hospital was between 10 and 20 days in 21 (67.7%) patients and 30 to 40 days in 10 (32.3%) patients (**Table 2**). In-patient management was offered to the entire 8 (100%) patients with severe case and the 23 patients with mild case were managed as an out-patient.

Definitive treatment offered was uterine vacuum aspiration for 23 (74.2%) patients, evacuation of retained product of conception under anaesthesia for 7 (22.6%) patients and laparotomy/uterine repair for 1 (3.2%) patient that had uterine perforation complicating uterine curettage done in an unsafe environment before presenting to the hospital. The patient that had laparotomy was a married secondary school student. Morbidities encountered were pyrexia 31 (100%), anaemia 21 (67.7%), uterine perforation complicating uterine curettage 1 (3.2%) and diarrhoea in 8 (25.8%) patients (**Table 2**). There was no mortality recorded.

Table 2. Presentation, management and complications.

Variable	N = 31	%
Mode of presentation		
Mild incomplete septic abortion	23	74.2
Severe incomplete septic abortion	8	25.8
Interval between ingestion of misoprostol and presentation		
10 - 20 days	21	67.7
30 - 40 days	10	32.3
TREATMENT		
MVA	23	74.2
ERPC under anaesthesia	7	22.6
Laparotomy	1	3.2
MORBIDITY		
Anaemia	21	67.7
Uterine perforation complicating curettage	1	3.2
Blood transfusion	3	9.7
Diarrhoea	8	25.8

MVA: Manual Vacuum Aspiration; ERPC: Evacuation of Retained Product of Conception.

4. DISCUSSION

Most developing countries like Nigeria have restrictive abortion law limiting access to safe abortion. Adolescents are more vulnerable to unwanted pregnancy and its complications because of secrecy surrounding sex at an early age due to peculiar socio-cultural background in most African Societies. Globally, medical abortion offers a new and better option to women seeking to terminate their pregnancy [5]. Medical methods of abortion hold the potential to improve women's health and advance their reproductive right [6]. With accessibility to medical abortion, women will no longer have to rely on surgical services considered to be less desirable and mostly unsafe in developing countries.

Supervision of medical abortion in a clinical setting is required at one stage or the other [1]; this makes the concept unfavorable for countries with restrictive abortion law. Supervision is paramount in low resource settings where majority are less educated and uninformed. All the patients managed in this study did not receive supervision before and/or after the use of misoprostol as abortifacient. Although authors have reported the possibility of "demedicalise abortion" that obligates medical supervision so long as easy access to medical care is available in case any problem arose [5-7]. However, for successful outcome of demedicalise abortion, women would need to accomplish the following; recognize that they are pregnant, estimate the duration of pregnancy, select appropriate regimen, adhere to the correct protocol, manage adverse reactions and seek care for those that warrant medical attention, possibly notice and cope with expulsion of the embryo, and recognize a complete abortion [5]. Considering the aforementioned viz-a-viz the socio-cultural and demographic characteristic obtainable in most African setting, it will be difficult to fulfill the criteria of demedicalise abortion in most resource constrained societies of Africa.

The peculiarities of the adolescent period especially in the developing countries where enormous stigma is associated with unwanted pregnancy, makes accomplishment of the above criteria almost impossible. Furthermore, the absence of adolescent friendly medical care has not helped the situation in most resource poor countries. Over a period of time, several regimens have been used for medical abortion. These include mifepristone-misoprostol, mifepristone-misoprostol and methotrexate-misoprostol [5]. However in Nigeria, out of all the drugs used for medical abortion, only misoprostol is easily accessible in terms of availability and cost. This attributes may have increasingly favored misoprostol as a commonly used abortifacient. Furthermore, lack of enforcement of drug prescription before dispensing policy in most developing countries is a major demerit towards the success of medical abortion.

In this study, the pregnancies were either in the first or second trimester. In as much as authors [8-11] have documented the safety and efficacy of misoprostol alone in medical termination of 1st and 2nd trimester pregnancies. The route of administration and dosage regimen are of paramount importance. All the patients in this study used misoprostol orally. Oral route of administration have been associated with low efficacy, with success rates between 5% and 11% in earlier studies [12,13]. On the contrary, vaginal route have success rates of between 89% and 94% [8,10,11,14,15].

Treatment protocol is an important variable in the success rate of demedicalise abortion with misoprostol. Dose regimen ranging from 200 µg to 800 µg, 8 to 12 hourly have been reported with good success [8,10,11,14, 15]. The adolescents in this series did not follow any particular regimen, which may be responsible for the low success rate and increase complication of incomplete abortion and its sequelae. Life table analysis estimating efficacy of misoprostol for first trimester pregnancy termination revealed the overall complete abortion rate of 88% to 93% with compliance to specific regime/protocol and intervention rate as low as 9% [16]. The greatest percentage of deaths and serious morbidity resulting from unwanted pregnancies occur in developing countries [17]. In this series, the complication was mainly incomplete abortion and its sequelae like sepsis, anaemia and blood transfusion. Limitation of this study

is that we did not rule out concomitant consumption of local herbal agents with abortifacient property.

Even though induced abortion is a criminal act in Nigeria, a lot of clandestine termination of pregnancy takes place on daily basis. Effort should be made towards setting up medical centers that are adolescent friendly, where counseling, routine medical assistance and care for abortion related complications can be rendered to patients. However, in other developing countries with unrestrictive abortion law, factors contributing to three tier delay in accessing health care must be considered in the success of demedicalise abortion [18].

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