THE CENTRAL AFRICAN JOURNAL OF MEDICINE

Vol. 47, No. 9/10 September/October 2001

CONTENTS

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Owned and published by the *Central African Journal of Medicine* in conjuction with the Faculty of Medicine

University of Zimbabwe

STRAND MULTIPRINT (PVT) LTD

THE CENTRAL AFRICAN JOURNAL OF MEDICINE

ORIGINAL ARTICLES

Abortion admissions in rural Matebeleland North province

S RUTGERS

Abstract

Objectives: To describe the characteristics, clinical features and management of women admitted with an abortion in rural Zimbabwe.
Design: Cross sectional descriptive study.
Setting: Four government and two mission hospitals in rural Matebeleland North province.
Subjects: Hospital records of 355 consecutive women admitted with the diagnosis abortion from May to October 2000, and delivery registers covering the same six month period.
Main Outcome Measures: Age, marital status, reproductive history, referral status, distance home to hospital, presenting symptoms, findings on examination, complications, management in hospital, final diagnosis, length of hospital stay.
Results: Abortion patients tended to be older and of higher parity than women who delivered in the same period. Fifteen percent were teenagers, 81.2% were married and 2% *nullipara.* Mean period of gestation was 11.3 weeks. About half of the women had been referred and 74.4% lived within a 50 km radius from the hospital. Forty two percent had never used contraception. Of the users, 38.6% had discontinued in order to conceive and 19.3% had fallen pregnant on the method. Thirty one percent of the women wanted no more children.
One third of the abortion patients had a temperature above 37.6°C; 25.9% offensive vaginal discharge and 7% a haemoglobin of less than 6 g/dl. Eighty percent were given antibiotics and 4.2% received a blood transfusion; 73.2% had an evacuation of the uterus for incomplete abortion, with a mean delay between admission and evacuation of 32.5 hours. Only 17.5% of the women had on record that they were given a contraceptive method on discharge. Mean length of hospital stay was 3.1 days. The case fatality rate was more than 1%. An estimated 43.4% of the women had a possibly unsafe induced abortion prior to admission.
Conclusion: As evidenced by the high morbidity and mortality, abortions are a serious public health problem in rural Matebeleland North. Taking into account that only a minority of the women with both unsafe and spontaneous abortions present to a hospital, it is imperative that the reproductive needs of the women who do come are addressed. No opportunity should be missed to offer contraceptives to a group of women whose use of contraception is lower than average. Clinical management of abortion patients could improve by earlier evacuation of the uterus in cases of incomplete abortion, use of local or no anaesthesia and by increased availability of suction cannulas in district level hospitals, which would also reduce length of hospital stay.

Cent Afr J Med 2001;47(9/10):214-20

PMD Matebeleland North
PO Box 441
Bulawayo
Zimbabwe

Introduction

Abortions which are defined as the termination of a pregnancy with a duration of less than 22 weeks or delivery of a foetus of less than 500g rank among the top five causes for hospital admission of women in Zimbabwe.[1] The same is true in Matebeleland North province where on average 950 women are admitted annually with the diagnosis of abortion: 800 abortions in the eight government and mission hospitals and 150 abortions in a big private mine hospital.[2] Abortions are the most important reason for gynaecological admission in the province.

Zimbabwean law gives women access to a legal and safe termination of pregnancy only if their pregnancy is the result of incest or rape, if continuation of the pregnancy would endanger the woman's physical health or when there is a risk of serious foetal abnormality. Rape and incest are the most common indications[3] and women wanting a termination are usually referred to a gynaecologist in a central or provincial hospital. In theory, pregnant women with HIV are permitted a legal termination of pregnancy, but very few of the estimated 100 000 a year in the country make use of this possibility. For example, Bulawayo Central Hospital, one of the four central referral hospitals in the country, reports between 10 and 20 terminations of pregnancy annually.[4]

Worldwide, women terminate unwanted pregnancies with often unsafe methods, and this is also the case in Zimbabwe.[3,5] The World Health Organisation estimates the number of *unsafe abortions* (abortions not provided through approved facilities and/or persons) in Southern Africa to be 16/1 000 women annually in the age group 15 to 49 years.[5] In Matebeleland North with a population of about 815 000 (1999[2]) and 20% of the population in this age group, one would thus expect 2 600 women to experience an unsafe abortion every year. In addition, about 3 670 women would have a spontaneous abortion (based on a low estimate of 10% of the estimated 36 675 pregnancies in the province[2]). The 950 annual abortion admissions are only 15% of the expected number of unsafe and spontaneous abortions in the province.

It is true that not all women who have an abortion need medical care. The literature[6] suggests that while spontaneous abortions seldom complicate, 10 to 50% of unsafe abortions develop complications. Thus in situations with restrictive abortion laws, the majority of women admitted with an abortion would have had an unsafe abortion.[6] Complications of sepsis or severe anaemia needing blood transfusion occurred in a quarter of abortion patients in Harare Central Hospital.[3,7] Abortions contribute substantially to maternal mortality: 23% of all maternal deaths in urban Harare and 15% of those reported in rural Masvingo during a community survey (1989 to1990) were abortion related, as well as seven of 23 (32%) maternal deaths in Mpilo Central Hospital in 1992.[3,8] In Matebeleland North with a maternal mortality ratio of 453 per 100 000 institutional live births in the year 2000, eight of the 57 reported maternal deaths were from abortion complications.[9]

The main objective of this study was to describe socio-demographic and reproductive characteristics and clinical presentation of women admitted with the diagnosis of abortion in Matebeleland North province, where 90% of the population live in rural areas.

The second objective was to assess the management of women with abortions. In 1998, senior health workers received a half-day training on *post* abortion care as part of training in reproductive health. The emphasis was on early evacuation of retained/septic products of conception by means of suction curettage (preferably without general anaesthesia), prescription of antibiotics or blood transfusion if needed, counselling on reproductive health and provision on discharge of contraception to those women who want to use a method.[10] By the end of 1999 all health workers were expected to have received this training.

Materials and Methods

Six of the seven districts in Matebeleland North Province were included in this cross sectional descriptive study: Bubi, Nkayi, Hwange, Lupane, Tsholotsho and Binga districts. Umguza district the seventh district in the province does not have a resident doctor and refers patients with abortions to Bulawayo or Tsholotsho. Matebeleland North has no provincial hospital. One government or mission hospital per district was identified: the four government district hospitals in Bubi, Binga, Nkayi and Tsholotsho, and the two mission hospitals St Luke's in Lupane and St Patrick's in Hwange, both functioning as district hospitals for rural communities. Excluded were the private mine hospital in Hwange town, urban Victoria Falls hospital and a mission hospital in Nkayi district with restrictive family planning policies. Unlike in urban hospitals, it is very rare for an abortion patient in a rural district hospital to be treated on an outpatient basis. Therefore only admitted patients were considered. Because routine recording of history and findings on admission was found to be very poor, a special admission form was distributed to the above hospitals at the beginning of the year 2000 to standardize history taking and examination. The form included the following variables: age; marital status; parity; previous number of abortions; ever and recent use of contraception; desired number of children; period of gestation; referred or not; distance to hospital; signs and symptoms on admission; duration of symptoms; complications; management; laboratory testing; whether or not evacuation of the uterus was performed; delay to evacuation; blood transfusion; oxytocin ergometrine administration; family planning counselling and provision on discharge; final diagnosis and length of stay in hospital. The forms remained in the hospital notes, which on discharge were kept separate by the Health Information Clerk.

In each hospital, all consecutive abortion admissions in the six months May to October 2000 were included in the

study. Admission books were checked for any missing notes. If an abortion admission form was incompletely filled in the hospital notes were scrutinized, for instance by copying the temperature from a temperature chart if this information was not recorded. During a preliminary analysis in August 2000, it was found that answers were missing relating to questions on past and future use of contraception. The hospital staff were given this feedback after which the completeness of records improved. At the same time, a senior midwife in the three hospitals with most missing data (Binga, Nkayi and Tsholotsho) was asked to independently interview 25 extra consecutive patients mainly with regards to past use of contraception in order to supplement any missing data on the admission form. The midwives were given a small incentive per interview.

In order to compare ages and parities of women admitted with an abortion with those delivering in the same period this information was retrieved from maternity registers.

Data were collected regularly during routine bi-monthly district visits and entered on a master data sheet. They were later entered into the computer using the EPI6 programme and analysed into frequency tables and cross tabulations. Data from the admission forms and interviews were entered separately. No evidence of systematic bias was found in the forms with omissions.

At a quarterly doctors' meeting in September 2000, nine government and mission doctors filled in a self administered questionnaire on routine care of abortion patients in their hospital.

Results

A total of 355 abortion admission forms and case notes were analysed. In the same period 3 435 live births were reported in these institutions, a ratio of 1: 9.7, (see Table I).

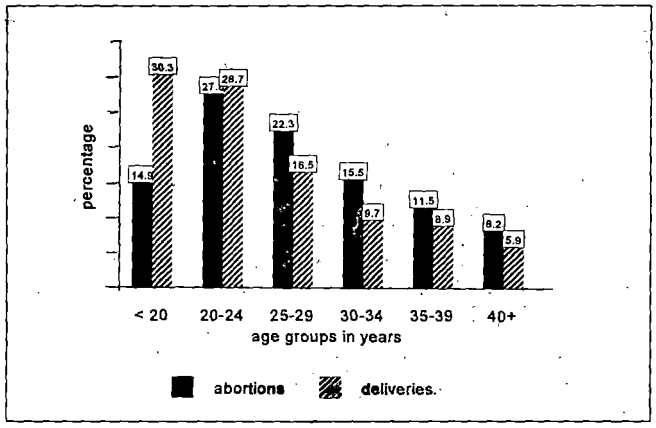
The information was complete except for responses on number of previous abortions, available for 314 cases (88.5%), on past use of contraception (287 cases, 80.8%), on number of desired children (140, 39.4%) and on counselling and provision of contraception on discharge (151, 42.5%). No statistically significant differences were found between districts.

Table I: Number of abortions and live births by hospital Matebeleland North May to October 2000.

Hospital	Abortions	Live Births
Binga District Hospital	68	579
Inyathi District Hospital	38	259
Nkayi District Hospital	76	637
Tsholotsho District Hospital	67	682
St Luke's Hospital (Lupane)	62	795
St Patrick's Hospital (Hwange)	44	483
Total	**355**	**3 435**

Mean age of the abortion patients was 27.3 years, standard deviation (SD) 7,5. The percentage of teenagers ranged from 9.8 to 21.7% (mean 15.0%). Six of the 7, 14 and 15 year old girls were from Binga district. Figure I compares the percentages in each age group of women admitted with an abortion and women who delivered in the same period. Of the 355 women, 81.2 % were married, 17.7% were single and 1.1% divorced or widowed.

Figure I: Hospital abortions and deliveries Matebeleland North May to October 2000. Percentage distribution by age group.



Twenty percent of the women had never delivered. Mean parity was 2.8, (SD 2.5). Figure II shows the percentages by parity among women with an abortion and women who delivered. Mean gravidity was 4.1 (SD 2.7). Half of the women (51.3%) admitted to having had a previous abortion, and almost one fifth (17.8%) had two or more abortions.

Figure II: Hospital abortion and deliveries Matebeleland North May to December 2000. Percentage distribution by parity.

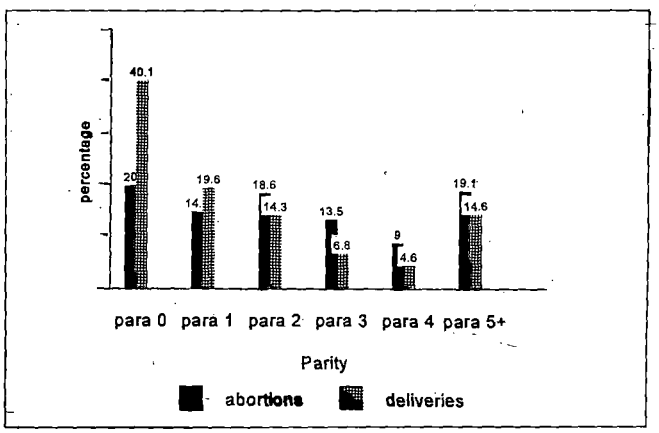


Table II describes the presenting symptoms and findings on admission, Table III contraceptive history and Table IV management of the patients. No differences were found between *nulliparae* and *parous* women. Although 22.6% of the teenagers had a temperature > 36.7°C compared with 34.8% of the older women, this was not statistically significant (p>0.05). The 57.8% women who had ever used contraception had stopped a mean period of 15 months before the onset of the pregnancy (SD 22.8 months),

ranging from 'not having stopped' to having discontinued 10 years earlier. Of the 140 women who had an answer recorded on the number of desired children, 30.7% wanted no more children, but 63.6% (28/44) of women of parity four and over wanted no more children.

The antibiotics prescribed to 80% of the women were amoxicillin, metronidazole, erythromycin and benzylpenicillin, in a combination of two (87.8%) or three drugs (8.1%). Doxycycline was given as a single drug in the other 4.1%.

The recorded final hospital diagnosis was complete *abortion* in 21.3%, *septic abortion* in 9.6% and *incomplete abortion* in 69.1%. In two patients with septic abortions the doctor's comment was 'induced abortion'. Nine women also had malaria and five had infections with symptoms of immune depression. The mean length of stay in hospital was 3.1 days (SD 2.8). During the period of study four abortion deaths were reported in the six districts, three in hospital from sepsis in women aged 21, 24 and 28 years and one in a 17 year old who died from haemorrhagic shock at home. No legal terminations of pregnancy were performed, nor were women referred to a central hospital for this reason.

On the self administered questionnaires four of the nine doctors reported that they routinely would do a pregnancy test on a woman presenting with signs and symptoms of an incomplete abortion. Blood for Hb would only be taken if there was a clinical indication. All but one said that they would transfuse if a woman had an Hb less than 5g/dl and was actively bleeding. Two would always prescribe antibiotics to women with an abortion, the others only in the presence of sepsis or offensive discharge. Four mentioned that they would always test for syphilis. When asked when an evacuation of the uterus would be an emergency procedure, the doctors answered 'if a patient is bleeding profusely' (n=5) or 'in shock and bleeding' (n=4).

Table II: Presenting symptoms and findings on examination in abortion patients Matebeleland North May to October 2000. N=355.

Bleeding	355	(100%)
'with clots'	339	(95.5%)
Abdominal pains	329	(92.7%)
'Hot body'	88	(24.8%)
Duration of symptoms	Mean 2.9 days (SD 3.5)	
Period of gestation	Mean 11.3 weeks (SD 4.8)	
First trimester < 13 weeks	255	(71.8%)
Referred from rural health centre/hospital	182	(51.3%)
Delay referral — arrival in hospital	Mean 8 hours 20 minutes	
Distance home — hospital < 10km	93	(26.2%)
> 50km	91	(25.6%)
T>37.6°C		
— On admission	44	(12.4%)
— At any time during admission	117	(33.0%)
Diastolic Blood Pressure <60 mm Hg	31	(8.7%)
On vaginal examination		
— Open cervical os	248	(69.9%)
— Presence of blood clots	212	(59.7%)
— Offensive vaginal discharge	92	(25.9%)

Table III: Contraceptive history in women admitted with abortion at six hospitals in Matebeleland North May to October 2000.

Previous Use of Contraception n=2 878*		
Ever used contraception	166	(57.8%)
Ever used contraception by Marital Status		
married (236)	131	(55.5%)
single (47)	31	(66.0%)
divorced or widowed (4)	4	(100%)
Ever used contraception by Parity		
nulliparous (55)	6	(10.9%)
parous (232)	160	(69.0)
Last contraceptive method	**N = 16**	
Combined oral contraceptives	55	(33.1%)
Progsterone only pills	57	(34.3%)
Depot medroxy progesterone acetate	40	(24.1%)
Tubal ligation	1	
Condoms	1	
Unspecified	12	(7.2%)
Reasons for discontinuation of contraception	**N= 166**	
Wish to conceive	64	(38.6%)
Realised was pregnant	32	(19.3%)
Side effects (bleeding/spotting 22/26)	26	(15.7%)
No money, no supply	11	(6.6%)
New husband/church disagrees	4	(2.4%)
Thought was menopausal	2	(1.2%)
No specific reason mentioned	27	(16.3%)

Note: 68/355 admission forms had no response recorded.

Table IV: Management of abortion patients Matebeleland North May to October 2000. N= 355.

Blood examined for haemoglobin (Hb)	142	(40.0%)
— Hb < 5 g/dl	12/355	(3.4%)
— Hb 5-< 6 g/dl	12/355	(3/4%)
Oxytocin or ergometrin given	240	(67.6%)
Tested for syphilis (Rapid Plasma Reagin test)	118	(33.2%)
Evacuation of the uterus	260	(73.2%)
Mean delay admission to evacuation uterus	32.5 hours (SD 27.6, range 1 hour-1 week)	
Antibiotics given	284	(80.0%)
Blood transfusion	15	(4.2%)
	Mean donation 2.1 unit	
Record of contraception having been discussed	151	(42.5%)
Contraception provided on discharge		
— Combined oral contraceptives	42	
— Depot medroxy progesterone acetate	14	
— Condoms	4	
— Tubal ligation	2	

Six doctors had attended one or more demonstrations on suction curettage; one only used it at times. The others did not have the suction cannulas. Prior to an evacuation of the uterus, most doctors gave the patient ketamine/diazepam (n=5), pethidine/diazepam (n=3), general anaesthetic (n=1) or at times no anaesthesia (n=1). None mentioned local anaesthesia as an option.

Seven doctors said they always discuss future use of contraception, two said they would advise starting a method only six weeks after the abortion.

Discussion

This study confirms earlier reports from urban Zimbabwe: women admitted with an abortion tend to be older and of higher parity than women who deliver in the same institutions.[7,11] Most women in this study were married, even the teenagers. In Binga district the proportion of teenagers was twice as high as in the other districts and whereas overall 73.5% of the teenagers were married. In Binga this was 89.5%. Binga district is known to have the highest incidence of teenage pregnancies in the province.[12] In a rural and rather undeveloped district like Binga most girls are unable to continue schooling beyond primary school. Many girls view a pregnancy as a positive event and a chance to get married.[13] The situation with regards to teenage abortions in Zimbabwe seems to be somewhat different from other South and East African countries, and more like, for example, Mauritius where the majority of abortion patients are women with a completed family.[14] A district hospital study from Dar es Salaam, Tanzania, found that one third of the 600 abortion patients were teenagers of whom 60% were single.[15] In Kenya and Nigeria teenage girls made up more than 60% of the septic abortion patients.[16] Compared to surrounding countries sexual activity in Zimbabwe starts later and most teenage sexual experience is in the context of marriage. Teenage reported sexual activity outside marriage is much lower (10.6%)[17] than, for example, in Botswana (60%), Zambia (44%) or Tanzania (32%).[18]

Unsafe induced abortions often do not give complications and women rarely acknowledge interference even when confronted with the evidence.[11,19,20] Comments on suspected interference are not normally recorded in the case notes and no attempt was made in this study to elicit this information systematically. An estimate was made of the abortions that were *possibly unsafe*, using proxy indicators proposed by the World Health Organisation: unplanned pregnancy, trauma, sepsis and/or offensive discharge.[19] Really unplanned were the 11% (19.8% x 57.8% ever users of contraception) pregnancies of the women who fell pregnant while using contraceptives. It is unlikely though that all women who were not using contraceptives were ready to be pregnant especially the 42% who had used contraception but stopped their method for other reasons than to conceive. Furthermore, 30.7% of the women wanted no more children. Sepsis was present in the 103 (29.0%) women who had a temperature above 37.6°C and no other reason for fever (excluding those with malaria and HIV-related illness) and 25.9% had offensive discharge of whom 51 had a temperature below 37.7°C. Therefore, as many as 43.5% (154) of the women had a possibly unsafe abortion.

This estimate is higher than the estimate in a study from Harare Central Hospital in which interference rate, based on the presence of an unwanted pregnancy and fever, uterine tenderness or infected products of conception, was estimated to be 23%.[11] This could well be true considering that in cities professional health workers may induce abortions which are less likely to result in complications.

Another indication of unsafe abortion is that 28% of the abortions were in the second trimester, whereas research from the United Kingdom indicates that spontaneous second trimester abortions make up only 5% of the total spontaneous abortions.[21] In the above mentioned Tanzanian study where 60% of the women had admitted to an induced abortion after careful interviewing, second trimester abortions made up almost 60% of all abortions.[15]

The abortion case fatality rate was 1.1% (4/355). Even if the denominator comprises all 3 135 estimated abortions, this would be an unacceptably high mortality rate of 128/100 000 for a procedure which under optimal circumstances carries a mortality of 0.2/100 000.22 With such high morbidity and mortality, abortions must be recognised as a serious public health problem in Matebeleland North Province.

The few doctors and clinical officers who were interviewed (who nevertheless constitute 75% of the government medical officers in the province) displayed a reasonable theoretical knowledge of what good abortion care is. In practice they should aim for less delay in evacuation of the uterus and consider using local or no anaesthesia, as general anaesthesia under non-optimal circumstances carries its risks. That doctors were not practising suction curettage is a problem beyond their control: the suction cannulas cannot be ordered through the normal channels, which is unfortunate since Manual Vacuum Aspiration (MVA) has been shown to reduce blood loss and pain in a study in Harare[23] and shortened hospital stay by 65% in Kenya.[16]

The doctors prescribed in practice antibiotics more often than they said they would in theory, which is very acceptable in view of the high prevalence of sepsis, although its use should be rationalized and in line with the recommendations in the 2000 Essential Drug List of Zimbabwe. Pregnancy tests were done in some institutions, but the results did not have any bearing on consequent management. Ultra sound scans, available in all hospitals, should be used instead in case of doubt about foetal viability and/or completeness of an abortion. Some doctors needed to be reminded that a contraceptive method can be initiated on discharge of an abortion patient, as ovulation may take place as early as two weeks *post abortum*.[16]

Good *post* abortion care has to include discussion and provision of contraception. This is where the doctors and their nursing staff need to improve most. They have to realize that a minority of women with an abortion seek medical care and that those who come must have a reason why they undertake an often long and uncomfortable journey. In this study three quarters of the women lived within a 50 km radius of the hospital, which is true for about 50% of the community in general.[2] This points to increased inaccessibility for those who live further away.

The approach towards a woman presenting with an abortion should be tailored towards her individual needs:

a just married *nulliparous* woman will likely need compassionate reassurance about her future reproductive prospects and a syphilis test, whereas a *para* 4 who fell pregnant on the pill and who wants no more children should be offered a less client-dependent method or even a permanent method of contraception. In this study and in previous studies among abortion patients,[20] the percentage of women who had never used contraceptives was high; 44.5% among married women, compared to 20.7% reported for the nation in the 1999 Demographic and Health Survey.[17] For more than 50% of the women this was the second abortion and almost one fifth admitted to two or more previous abortions.

In the United States of America 57% of the terminations of pregnancy occur in the 8% of women at risk of unintended pregnancies who do not use contraception.[24] In Zimbabwe, as in the United States, there may be a group of women who have less access than others to contraception because of cultural, religious, geographical or financial reasons and who resort to unsafe abortions to regulate their fertility. Choice of contraceptives in rural health centres is limited to contraceptive pills, injections and condoms, which may be inadequate for women who are dissatisfied with their contraceptive method. Therefore, any contact with a hospital should be an opportunity for women to have their reproductive needs assessed. Unfortunately, doctors and nurses showed no evidence that they discussed past use of contraception, whether the pregnancy had occurred whilst the woman was on a method, and the woman's wish for future children. There was poor reporting on these issues in the hospital notes prior to the study, but also on the special admission form. The improvement of recording after an incentive was offered is testimony that there is no unsurmountable cultural barrier to asking these questions.

All health workers should understand that not offering contraceptives to a woman with an unsafe abortion is negligence, comparable with not providing insulin to a patient discharged after a diabetic coma. Maternal mortality from different causes in Zimbabwe is increasing and 40% of all women of all ages want no more children, many of whom have an unmet need for family planning.[17] Missing opportunities to provide contraception results in deaths. Reports on *post* abortion care in Kenya[16] and Harare Central Hospital[7] show that when counselled after an abortion more than 90% of the women opt for contraception, either to 'rest' after the abortion before trying for another pregnancy or because the pregnancy was unplanned anyway.

In this study, only 17.5% of the women had on record that they left the hospital with a contraceptive method. *Post* abortion tubal ligation should have been offered to all women from 30 years onwards with four live children who wanted no more children. Only two women (with five and eight children respectively) out of 104 with these attributes who had *post* abortion tubal ligation in Bulawayo Central Hospitals regretted this decision.[25] Two *post* abortion tubal ligations were done during the study period, by the same doctor. One of her patients was a *para* 6 pregnant with twins and admitted with slight bleeding at 18 weeks gestation. An ultrasound scan found foetal heart activity and the woman was sent home. A week later she was readmitted, having aborted at home, still bleeding and with an Hb of 5 g/dl. When offered a tubal ligation, this patient said: "Yes doctor, that is why I came!" Many unwanted pregnancies and complications of unsafe abortions could be prevented with a more compassionate attitude from the health workers.

Acknowledgements

A grant from the Ministry of Health and Child Welfare under ' Essential National Health Research Priorities' is gratefully acknowledged.

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