INTRODUCTION

Reducing maternal mortality is one of the Millennium Development Goals (MDGs). Zambia has a high mortality ratio, estimated in the Zambia Demographic and Health Survey [ZDHS] of 2001-2002 at 729 per 100,000 live births (CSO et al 2003). This is an increase from the 1996 ZDHS figure of 649 per 100,000 live births (CSO et al 1997), though the 2007 ZDHS estimated it to be 591 (CSO 2009) – though no trend towards a decrease can be surmised due to wide confidence intervals. The Zambian millennium target is 162/100,000 (which is one quarter of the ZDHS1996 figure). The five major causes of maternal mortality include hemorrhage, hypertensive disorders, obstructed labour, sepsis and complications of unsafe abortion (Nsemukila et al 1998). Most of these are preventable causes of maternal mortality.

Tackling unsafe abortion alone could bring Zambia close to achieving its millennium target. Worldwide, it is estimated that unsafe abortions contribute 13% to the maternal mortality rate and in East and Southern Africa 15 to 30% (Kinoti, 1995). In Zambia 30% of maternal mortality is caused by unsafe abortions (UNICEF, 1994). At the University Teaching Hospital (UTH), for the year 2005, 29.5% of the maternal deaths were abortion-related (UTH Obstetrics and Gynaecology Department mortality records).

The magnitude of unsafe abortions in Zambia has not been clearly established**.** The high number of clients receiving post abortion care (PAC) suggests a high incidence of abortions (unsafe and illegal). At UTH 50% of admissions to the emergency gynaecological ward are due to incomplete abortions (UTH records). Most of these cases are referrals from the local clinics which are part of the

Lusaka District Health Management Team (DHMT) and many are suspected to have been induced.

Abortion in Zambia is legal under the provisions of the Termination of Pregnancy Act of 1972, yet the number of unsafe and illegal abortions remains persistently high. The Zambian abortion law allows abortion even for social economic circumstances and could be among the most liberal laws in Africa. The demand, as shown by the figures of clients receiving PAC, is high but access is low. Manual vacuum Aspiration (MVA) was introduced in 1988 to improve abortion care in Zambia. After this introduction the ratio of patients receiving PAC to those having elective (legal) pregnancy terminations reduced from 25 to 1 in 1988 to 5 to 1 in 1990 (Bradley et al 1991).

Most patients treated for complications of unsafe abortions are young women and most of them in their early teens (Kaseba et al 1998). This group generally has no access to family planning services though they seem to be very knowledgeable about where to access an abortion but avoid health facilities for fear of mistreatment (Webb 2000). Most of them also assume that abortion is illegal in Zambia (Webb 2000).

The abortion law in Zambia requires three doctors to approve an elective abortion and one of these should be a specialist in the related field. This restricts access to lawful and hence safe abortion. This is because very few places in Zambia will have the luxury of three doctors let alone a specialist. Clinical officers and nurses are not allowed by law to perform an elective abortion but the same group has been successfully trained to provide PAC which involves performing a manual vacuum aspiration (MVA). It is not known how many of

these can perform a safe elective abortion. It is known that some of the unsafe abortions are conducted by health workers including doctors (Castle et al 1990).

Castle and colleagues (1990) also observed that doctors at UTH were reluctant to give appointments for elective legal abortions to seekers despite the permissive law. Monetary gain on the part of health workers appears to be another barrier to access of abortion services. UTH records show that when there was monetary benefit to the doctor, in 1996 and 1997, elective abortion recorded were 1570 and 1661 respectively. But when fees were abolished in 1999 and 2000, the numbers dropped to 212 and 138 respectively. This indicates that health workers are able to offer the service but their attitude hinders them.

In South Africa where the abortion law was changed such that it allows abortion on demand up to 12 weeks gestation, accessibility to the service is still low and the attitudes of the providers was shown to be the contributing factor (Dickson et al 2003).

At the time the study was conducted there was no clear policy or guidelines on abortions in Zambia. Before advocating for policy formulation let alone for liberal laws on abortion it will be important to assess the attitudes, knowledge and current practice of health workers in the country as this advocacy will be in vain.

LITERATURE REVIEW

Do restrictive abortion laws prevent abortion?

Restrictive abortion laws do not prevent abortion but increases the health burden by increasing the number of unsafe abortions. This was one of the conclusions by Serbanescu et al (1995) in the case of Romania which had restrictive laws before the 1989 revolution. The study showed a decline in maternal mortality but an increase in requests for abortion which was attributed to poor access to contraceptives.

In Nigeria where the abortion law is very restrictive Henshaw et al (1998) found that a large number of unsafe and safe abortions are conducted by medical personnel.

In Belgium where abortion became legal only in 1990, Donnay et al (1993) surveyed perceptions of providers of abortion service before it was made legal. They found that health workers provided safe abortion despite the illegal context. The survey also showed that these providers were willing to take the risk of providing a safe but illegal abortion because they thought it to be cost effective to the health sector. The surveyed group also thought that conscientious objection to provide an abortion was legitimate.

The national Delphi survey of physicians, nurses and midwives in Jamaica had shown that even if abortion was illegal there was wide spread clandestine abortions by physicians and pharmacists. The survey also showed that 80% of the health workers favored legalizing abortion to reduce morbidity and mortality (Smith et al 1976).

In Nepal a hospital based study found that medical personnel including doctors, nurses and medical assistants provided unsafe clandestine abortions (Thapa et al 1992).

From these studies it is clear that abortions are provided regardless of the restrictions imposed by the law of the land - the abortions only become unsafe. Similarly, even if the Zambian law is permissive, ignorance of its provisions or the perception that it is very restrictive may explain the high number of unsafe abortions that are recorded.

Do attitudes of providers affect access to safe abortion services?

Participants in a study by Varga et al (2002) to examine abortion dynamics and decision making among rural and urban Zulu adolescents in Kwazulu Natal described abortion services in this region as inaccessible because of the health workers' attitudes. The health workers were described as arrogant and in most cases refused to provide the service. Because of this, most participants said they were not comfortable to seek abortion services from health institutions. South Africa has an abortion law which allows abortion on demand up to 12 weeks.

In Kenya, Baker and Khasiani (1992) studied case histories of induced abortions and found that one of the major causes of unsafe abortions was the cost of getting the service from a trained provider. Similar findings were reported by Paxman et al (1993) in Latin America where only rich women got access to relatively safe abortions.

To establish reasons why there was limited access to abortion services in Canada, Ferris et al (1998) surveyed doctors at different hospitals and found that the limited skills of the doctors was more a barrier to access to abortion services

than their attitudes. They recommended that abortion care be included in the clinical training of doctors.

Another study in Canada, Ontario designed to assess acceptance of medical abortion, found that despite widespread acceptance of the method, male practitioners were less willing to provide an abortion for non medical reasons (Ellin et al 2002).

The abortion access project by Kade et al (2004) found that in the state of Massachusetts most nurses had a negative attitude towards abortion. Most were unwilling to participate in abortion procedures and were likely to oppose the provision of the service in contrast to the physicians.

A study in Brazil, by Anibal et al in 2004, where abortion is legally restricted found that most gynaecologists when personally faced with unwanted pregnancy (regardless of gender) opted to have it terminated. Even those for whom religion was important opted to abort in these circumstances.

Kasule J. (1999) in a survey of Zimbabwe's heath workers' attitudes on abortion found that most health workers supported provision of safe abortion and liberal abortion laws. His findings showed that religion had little bearing on the attitudes but the knowledge of the complications of unsafe abortion.

Health care provider attitudes appear to vary from nation to nation and from institution to institution. Where the attitudes are negative women avoid the health institutions and seek services elsewhere and some end up getting unsafe services.

Do health workers in Zambia provide unsafe abortions?

Some adolescents interviewed by Dahlback in a study of prevalence of unsafe abortion among adolescents admitted to UTH with incomplete abortion, revealed that health workers helped them to induce the abortions. They did this by giving them tablets to swallow or to insert in the vagina. (Dahlbak et al 2007)

In a previous report based on a one day visit to the same emergency gynaecology ward at UTH, Castle et al (1990) observed that patients with abortion complications had been to traditional healers and midwives who inserted herbs and other abortificants into the cervix and vagina. Others were seen by private doctors who pushed plastic cannula into the cervix and then told to go to UTH. They also observed that junior doctors performed terminations in the operating room without following legal procedure.

Most of the participants in these UTH studies were referrals from Lusaka District Health Management Team (DHMT) clinics as the majority of patients admitted to the gynaecology emergency ward at UTH are clinic referrals (UTH ward C03 patient admission records). Some of the health workers in these clinics could be providers of the unsafe services.

What is known about health workers attitudes in Zambia?

Webb (2000) reported that young people in Zambia did not seek formal medical services for termination of pregnancy because these facilities lacked privacy and confidentiality. He also reported that young people assume termination of pregnancy is illegal in Zambia.

Koster-Oyekan (1998) in a study on why women resort to illegal abortions in Zambia found that seekers of abortion services in the Western province described legal services as inaccessible and unacceptable.

In a report based on the one day visit to the emergency Gynaecology ward at UTH and described earlier, Castle et al (1990) observed that patients who had had self-induced abortions were poorly treated. They observed that doctors at UTH were reluctant to give appointments for elective termination of pregnancy. Ndhlovu (1999) in an unpublished study on nurses' experiences on abortions in South Africa and Zambia found that in both countries nurses were judgmental or conservative and most were unfamiliar with problems of abortions.

Apart from the study by Ndhlovu, all the other studies that describe attitudes of health workers did not assess the health worker directly but by the views of the seekers of the services. Hence the importance of a study that assesses the views of the health worker directly in order to put in place appropriate interventions to address the situation. This study aims to shed light on the local situation in Lusaka and provide background for formulating interventions to improve abortion services in Lusaka and the rest of the country.

STATEMENT OF THE PROBLEM

The cases of incomplete abortion and other complications of unsafe abortions referred to UTH from the local clinics continue to be high despite a law that legalizes abortions under stipulated conditions. Health workers in these referring clinics could be contributing to this problem due lack of knowledge of the abortion law or their attitudes.

AIM OF THE STUDY

To assess the knowledge and views on abortion amongst health workers in selected private and public sector clinics in Lusaka district.

OBJECTIVES

Among health workers in selected private and public sector clinics in Lusaka district:

1. to assess knowledge of the law on termination of pregnancy.

2. to assess the attitudes towards termination of pregnancy.

3. to establish the current practice of termination of pregnancy.

SIGNIFICANCE OF THE STUDY

The study will provide information from health care workers regarding their knowledge, application and views on the law on abortion and to the extent they provide services. The information will be used to formulate guidelines and influence health policy to increase access to safe abortion.

RESEARCH DESIGN AND METHOD

Design

This was a cross sectional study assessing health workers' knowledge, attitudes and practice on abortion. A self administered questionnaire with open and closed ended questions was used for this assessment. The health workers included doctors, midwives, general nurses, clinical officers and pharmacists at selected public and private clinics in Lusaka. Other health staffs such as environmental health and laboratory technicians were also included.

Data collection

Questionnaire: A pre tested, self-administered questionnaire with both open and close-ended questions was used to collect the data (see Appendix II). The questionnaire was pre tested at UTH in the Department of Obstetrics and Gynaecology to check for appropriateness and understanding. The pre-testing involved 15 participants, 10 of whom were midwives and 5 were doctors. Based on the pre-testing minor revisions were made to improve clarity and flow of the questionnaire.

Research assistants: Either the Sister-in-Charge or the Nursing Officer of the institution, were employed as research assistants in all the study sites. The research assistants were briefed on the objectives of the research and what would happen with the information collected. The research assistants' role was to provide the questionnaires and a written instruction sheet (Appendix I) to potential respondents, instruct them on how to fill it in, preferably in full in one sitting and return the filled-in form to a specially designated drop- box placed in

the research assistants' room – preferably when no-one was in the room. Research assistants were given instructions to assure the participants that the information they gave would be kept confidential and would not be traced back to them.

Target study population: Respondents were to be drawn from primary level health care clinics administered by the Lusaka District Health Management Team (LDHMT) and also the private sector.

Sampling strategy

Two general approaches to sampling are used in social science research, of which this study is an example.

1. With *probability sampling*, all elements (e.g., persons, households) in the population have some opportunity of being included in the sample, and the mathematical probability that any one of them will be selected can be calculated.

2. With *non-probability sampling*, in contrast, population elements are selected on the basis of their availability (e.g., because they volunteered) or because of the researcher's personal judgment that they are representative. The consequence is that an unknown portion of the population is excluded (e.g., those who did not volunteer). One of the most common types of non-probability sample is called a *convenience* sample – not because such samples are necessarily easy to recruit, but because the researcher uses whatever individuals are available rather than selecting from the entire population. Because some members of the population have no chance of

being sampled, the extent to which a convenience sample – regardless of its size – actually represents the entire population cannot be known (Bland 2000).

Studies that use convenience samples are useful for documenting that a particular characteristic or phenomenon occurs within a given group or, demonstrating that not all members of that group manifest a particular trait. Strictly speaking, inferences cannot be drawn from a non-probability sample about the proportion of the population manifesting (or not manifesting) a particular characteristic or response. However, funding limitations, participant reluctance to participate and other methodological difficulties of sampling usually prohibits the use of probability samples in research on abortion.

Abortion is a sensitive topic. Thus, both women undergoing abortion and providers involved in their care may be viewed as a vulnerable population. Macleod et al in South Africa (2008) has cited this perceived vulnerability as a reason why sampling in research that investigates women's (or providers) responses to abortion tends to be convenience sampling. Other examples of studies that have used convenience sampling in studies related to abortion include those in South Africa by Cooper et al (2005) and Blanchard et al (2007). Lie et al (2008) in a review on the topic also acknowledges the value of convenience sampling in studies related to abortion.

Study sample: Based on the above argument, it was decided to approach health care workers at public and private health centers around Lusaka. Of the 24 primary health facilities under the Lusaka district health management team, it was decided to choose one from all round the city - all centered around UTH.

The five clinics selected included Chelstone, Chilenje, Matero Reference, Kalingalinga, and Bauleni and they included facilities with both delivery centres and just antenatal general outpatient facilities. It was not felt that there would be any particular bias in selecting the 5 clinics as none had any unique characteristics in terms of size, or demographic area served. Further, the 5 clinics were felt to be feasible in terms of costs of conducting the study – a common feature in choosing convenience sampling.

Five private clinics/hospitals were also included namely St. Johns Medical Centre, Care for Business, Premium Medical Centre, Hilltop Hospital and Lusaka Trust Hospital. These institutions were selected because they are well established and provide consistent health care with an established health staff and were willing to participate in this study. Also, they represent virtually all the main private clinics in Lusaka with a staff dedicated to managing gynaecology patients.

Sample size estimation

The number of questionnaires distributed to each study site was based on the number of core health workers (involved in managing women for gynaecology problems and in pregnancy) and that would be on duty during the study period. The numbers were based on the duty schedule of the institutions provided by each centres' management. Accordingly, the number of questionnaires distributed to the study sites was as follows: Chilenje 30, Bauleni 20, Chelstone 40, Matero Reference 30, Kalingalinga 30, Care for Business 15, St Johns Medical Center 10, Lusaka Trust Hospital 10, Premium Medical Center 10 and Hilltop Hospital 15.

The data collection period was from September to October 2007.

Data analysis plan

1. **Data QA/QC Handling and Analysis**

   Since the questionnaire was to be anonymous and self-completed, the role of the research assistants was simply to inform the prospective participants of the nature of the study, the confidential aspects and also encourage completion and anonymous depositing in the drop-box. There was no follow-up to remind prospective participants to complete and provide the questionnaire as a list of who had been provided with the questionnaire would have undermined confidentiality (as to who had filled-in a questionnaire and who had not).

   For each study site, all questionnaires in the drop box were collected after one week and checked for completeness. All data was reviewed, and range checks were conducted by the author. Verification was made with the original questionnaire for out of range and missing data.

   Data analysis:

   Data was tabulated as simple frequency distributions using appropriate categories (e.g. age, type of cadre, years in service etc). Figures were created of the data where it was felt this was illustrative.

   In order to categorise the **Level of knowledge,** the questions in Part two of the questionnaire was used (Appendix II, Q8-15). The following grading was used:

Level of knowledge	grading
Good	(>60% answers correct)
Some	(41-60% answers correct)
Poor	(1-40% answers correct)
None	(0% answers correct)

Ethical considerations and institutional permissions

This research was approved by the University of Zambia Research Ethics Committee. Permission was obtained from the management in all participating clinics and institutions.

Respondents were protected from identification in that no personal identifiers were required on the questionnaire. In order to add a further layer of anonymity, apart from identifying whether the questionnaire was from a public or private institution, the actual name of the institution could not be identified.

RESULTS

Questionnaire Distribution and Response. As summarized in Table 1, a total of 210 questionnaires were distributed (150 to public institutions [71%] and 60 to the private institutions [29%]). However, 4 of the 60 questionnaires distributed in private facilities were mistakenly filled in by non-health workers (accountant and administration staff) and these were excluded. There were 141 respondents (68.4% of the valid questionnaires). The rate of response was only marginally higher in public institutions than in private institutions (69.3% vs. 66.1%). The effect of non-response is assessed after the Results.

Table 1 Questionnaire Distribution and Response

	Questionnaires distributed n (%)	**Questionnaires completed** n (%)	**Response** proportion (%)	**Numbers of non-responders**
Public	150 (73%)	104 (73.7%)	104/150 (69.3%)	46
Private	56 (27%)	37 (26.2%)	37/56 (66.1%)	19
All	206 (100%)	141 (100%)	141/206 **(68.4%)**	**65**

Demographic data of participants. The demographic, work experience and response rates are presented in Table 2. The majority (83.7%) of participants were female and in the age group 31-40 years. Three quarters were married. The highest proportion of respondents shared the catholic faith (24.8%). Over three quarters of respondents were drawn from the nurses and midwives' category while only 4.3% were doctors. The primary health care in the Lusaka DHMT is nurse driven. Of the 141 respondents, 73.7% were from the public and 26.2% from the private sector – similar to the number of questionnaires

distributed (73% and 27% respectively). Those respondents that had work experience of longer than 15 years constituted the largest group (35.5%).

Table 2 Demographic data of participants (N =141)

	number	percentage
1 sex distribution		
Male	23	16.3
Female	118	83.7
2 Age distribution (years)		
20-30	40	28.4
31-40	54	38.3
41-50	32	22.7
>50	15	10.6
3 Marital status		
Married	106	75.2
Single	27	19.1
Widow(er)	8	5.7
Divorced	0	0
4 Denomination		
Catholic	35	24.8
UCZ	19	13.5
RCZ	6	4.3
Other protestants	17	12.1
Jehovah's witness	6	4.3
Pentecostal	26	18.4
SDA	12	8.5
None	20	14.2
5 Cadre		
Doctor	6	4.3
Clinical officer	13	9.2
Midwife	46	32.6
General nurse	65	46.1
Pharmacists	3	2.1
Others	8	5.7
6 Institution and response		
Private	37	26.2
Public	104	73.8
7 Work experience in years		
0-5	35	24.8
6-10	30	21.3
11-15	25	17.7
> 15	50	35.5
missing	1	0.7

OVERALL KNOWLEDGE. Respondents were tested for their knowledge of the Termination of Pregnancy (TOP) Act of 1972, exploring their knowledge of the existence of the act, when it was enacted, whether or not it allows abortion and under which circumstances abortion is allowed. Their knowledge of where an abortion can be conducted and who can conduct it was also explored. The respondents' answers are tabulated in Table 3 and illustrated in Figures 1 and 2. Answers were categorized as 'good knowledge', 'some knowledge', 'poor knowledge', and 'no knowledge' as listed. Almost half of the respondents (53.9%) demonstrated good knowledge of the TOP Act while 29.1% had no knowledge.

Considering 'good knowledge', participants from the private sector had better knowledge than those from the public sector (64.9% vs. 50.0%). Similarly, less from the private compared to the public sector had no knowledge (16.2% vs. 33.7%).

Table 3. Overall knowledge of the law among respondents by institution (N=141)

Level of knowledge	Public n (%)	Private n (%)	All N (%)
Good (>60% answers correct)	52 (50.0)	24 (64.9)	76 (53.9)
Some (41-60% answers correct)	13 (12.5)	7 (18.9)	20 (14.2)
Poor (1-40% answers correct)	4 (3.8)	0 (0)	4 (2.8)
None (0% answers correct)	35* (33.7)	6 (16.2)	41 (29.1)
Total	104 (100)	37 (100)	141 (100)

*includes 1 incomplete response

Figure 1. Overall level of knowledge of the law

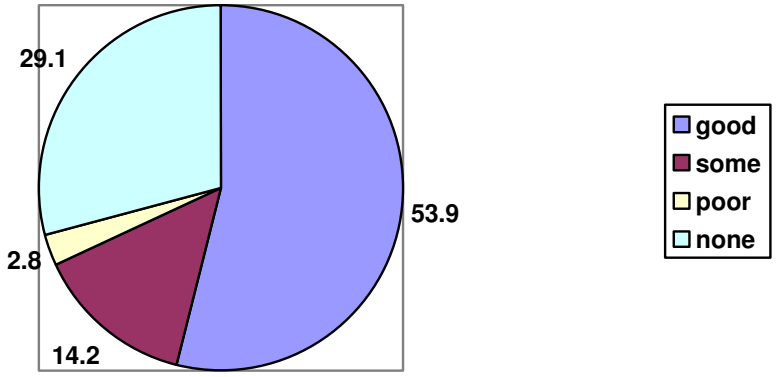
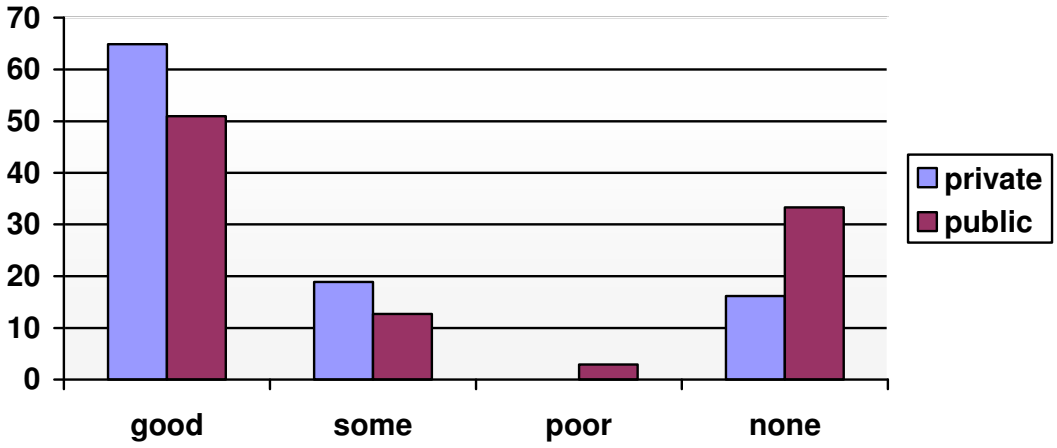


Figure 2. Comparing overall level of knowledge of the law among participants from the private and public sectors



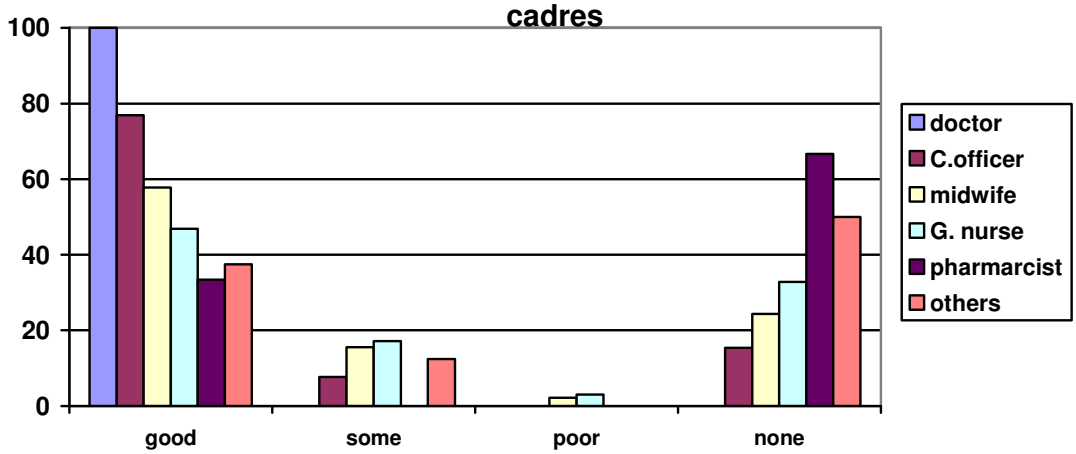
Overall knowledge of the law by health cadre. Although overall 53.9% of respondents had good knowledge of the law, this varied by cadre – all 100% of (only the 6) doctors, 76.9% of (13) clinical officers, 56.5% of midwives had good knowledge. Almost one third of nurses (32.8%) had no knowledge of the law on abortion. (Table 4 and Figure 3).

Table 4. Overall level of Knowledge of the law among respondents by health cadre

	Level of knowledge				
	Good n (%)	**Some n (%)**	**Poor n (%)**	**None n (%)**	**All N (row %) (Col %)**
Doctor	6 (100)	0 (0)	0 (0)	0 (0)	6 (100) (4.3)
Clinical officer	10 (76.9)	1 (7.7)	0 (0)	2 (15.4)	13 (100) (9.2)
Midwife	26 (56.5)	7 (15.2)	2 (4.3)	11 (23.9)	46 (100) (32.6)
General nurse	30 (46.9)	11 (17.2)	2 (3.1)	22 (32.8)	65 (100) (46.1)
Pharmacist	1 (33.4)	0 (0)	0 (0)	2 (66.7)	3 (100) (2.1)
*Others	3 (37.5)	1 (12.5)	0 (0)	4 (50.0)	8 (100) (5.7)
All	76 (53.9)	20 (14.2)	4 (2.8)	41 (29.1)	141 (100) (100)

*laboratory technicians, environmental health technicians and radiographers.

Figure 3. Knowledge of the law among the different health cadres



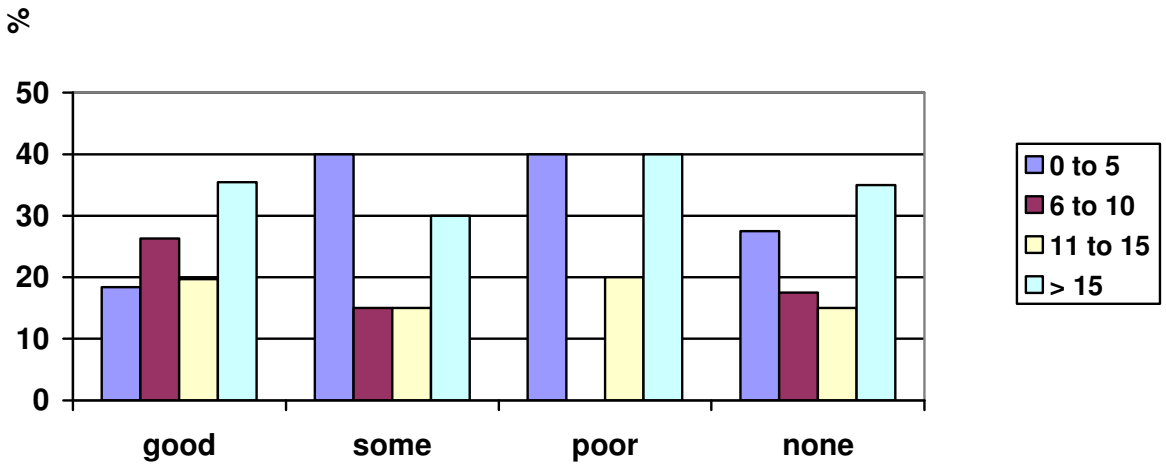
Overall knowledge by number of years in service. Those with greater than 15 years service had the highest proportion with 'good' knowledge. Conversely, all categories had participants who exhibited no knowledge of the law regardless of number of years in service (from 15-27.5%). (Table 5 and Figure 4).

Table 5 Level of Knowledge by number of years in service

	Level of knowledge				
Years of service	**Good n (%)**	**Some n (%)**	**Poor n (%)**	**None n (%)**	**All N (row %) (Col %)**
0-5	14 (18.4)	8 (40.0)	2 (40.0)	11 (27.5)	35 (100) (24.8)
6-10	20 (26.3)	3 (15.0)	0 (0)	7 (17.5)	30 (100) (21.3)
11-15	15 (19.7)	3 (15.0)	0 (0.0)	6 (15.0)	25 (100) (17.7)
>15	27 (35.5)	6 (30.0)	2 (40.0)	14 (35.0)	50 (100) (35.5)
Total	76 (100) (53.9)	20 (100) (14.2)	4 (100) (3.5)	40 (100) (28.3)	141* (100)

*includes 1 incomplete response

Figure 4. Level of knowledge by number of years in service



Does the law allow abortion?: Just over half of participants (53.2%) know that the current law allows abortion against 32.6% who did not know and 14.2% who think it does not allow. (Table 6).

Table 6. Knowledge of whether the current law allows abortion

	Number	Percentage
Allows	75	53.2
Not allows	20	14.2
Don't know	46*	32.6
Total	141	100

*Includes 2 non-responses

Circumstances in law that allow abortion. Apart from 2 non-responders to that part of the questionnaire, all participants correctly stated that the law does not provide for abortion on demand. (Table 7). Also, 63.8% felt it could be applied to save the life of a woman. 3.5% thought that it provided for socioeconomic reasons and 16.3% thought it provides for defilement and rape.

Table 7. Knowledge of the circumstances under which abortion is allowed under the current law (N=141)

Circumstance*	Number*	% (of 141)
1= to save the life of a woman	90	63.8
2= when the woman demands for it	0	0
3= if the pregnancy is a risk to the woman's mental health	56	39.7
4= if pregnancy is a result of rape or defilement	23	16.3
5= if the fetus has gross abnormalities	60	42.6
6= for economic or social reasons	5	3.5

*more than one response can be provided

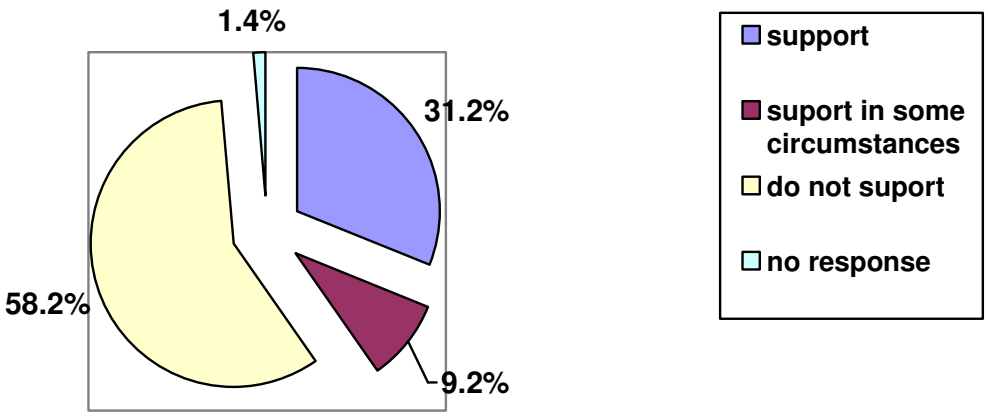
ATTITUDES

Attitude towards laws that allow abortion. Overall, 44 (31.2%) support and 13 (9.2%) support in some circumstances for abortion (total 57, 41.1%). The majority do not support (82, 58.2%) (Table 8 and Fig 5).

Table 8. Attitude towards laws that allow abortion

attitude	number	percentage
Support	44	31.2
Support in some circumstance	13	9.2
Do not support	82	58.2
Missing response	2	1.4
Total	141	100

Figure 5. Attitude towards abortion



Reasons for support. Of the 57 respondents that support the law to any extent, most (n=38, 67%) thought such laws save women's' lives, and a further 7 (12.3%) felt laws allowing abortion generally improved women's health. Tabulated in Table 9 are other reasons (e.g. it was a woman's right, it reduces incidents of unsafe abortions, it alleviates the trauma for the defiled and raped.

Among the 82 respondents who do not support laws that allow abortion, a third (n=27, 32%) felt such laws are sinful while a quarter (n=21, 25.6%) equated it to murder.

Table 9. Reasons for attitude

Support	**n**	**%**		**Do not support**	**n**	**%**
Saves women's lives	38	66.8		It is sin	27	32.9
It is a woman's right	1	1.8		It is criminal	3	3.7
They abort in any case	1	1.8		It is murder	21	25.6
Helps the defiled and raped	2	3.5		The unborn has right to life	6	7.3
Reduces unsafe abortions	3	5.3		Because it can be abused	2	2.4
Chronically ill patients can have options	2	3.5		Promotes promiscuity and immorality	8	9.8
Improves general health for women	7	12.3		It can be dangerous for women	5	6.1
No reason given	3	5.3		Zambia is a Christian nation	2	2.4
				No reason given	8	9.8
Total*	57	100			82	100

*there were 2 non-responses

Circumstances supported for abortion. Although they knew that the law does not allow for it, 7 (5%) still felt they would support a woman's request if she requested or demanded an abortion. (Table 10). However, just about half of the respondents (n=69, 48.9%) would support if continued pregnancy would pose a risk to the woman's health. Also 55 (39.0%) would support if the fetus risks having severe physical or mental abnormalities. Few would support for the other circumstances related to socio-economic and risk to existing children (7.8% and 9.9% respectively).

Table 10. Circumstances supported for abortion (N=139)

circumstance	number	percentage
1= on request or demand by the woman	7	5.0
2= in case of rape, defilement or incest	20	14.2
3= if continued pregnancy would pose a risk to the woman's health	69	48.9
4= if the fetus risks having severe physical or mental abnormalities	55	39.0
5= if continued pregnancy would significantly affect the social or economic circumstances of the woman	11	7.8
6= if continued pregnancy would risk to existing children	14	9.9
All	141*	100

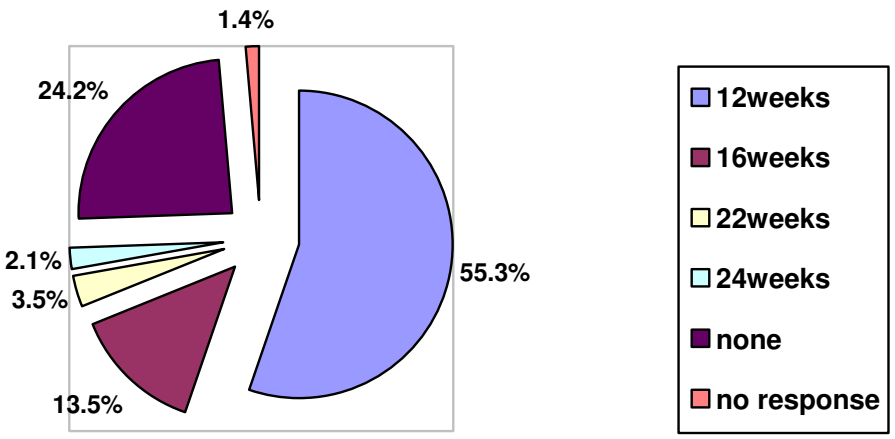
*includes 2 non-responses

Gestation up to which to allow abortion. Although 78 (55.3%) felt that if an elective abortion were to be performed it should be done in the first trimester (before 12 weeks), 34 (24.1%) did not support abortion at any gestation age. (Table 11, Figure 6).

Table 11. Maximum gestation age supported for abortion (N=141)

Gestation age in weeks	number	percentage
12	78	55.3
16	19	13.5
22	5	3.5
24	3	2.1
none	34	24.1
missing	2	1.4
Total	141	100

Figure 6. Maximum gestation age supported for abortion



Attitude about cadres other than doctors conducting abortions. Almost three quarters of participants (73.8%) do not support that an elective abortion should be conducted by any other cadre apart from doctors. (Table 12).

Table 12. Attitude towards laws that would allow cadres other than doctors to conduct abortions

attitude	number	percentage
Support	29	20.6
Do not support	104	73.8
Not stated	8	5.7
total	141	100

Reasons for attitude regarding other cadres to conduct abortion. In response to the suggestion of other medical cadres being allowed to provide abortion services, of the 133 responses (out of 141), the majority among those in support (38%) felt it would increase accessibility while 22% felt it would save lives (Table 13). Others (6%) felt the hospital burden would be reduced and that the cost of procuring an abortion would be reduced (9%). A quarter of these did not give a reason.

A quarter of those that did not support thought the service would be abused while others (15%) felt it would increase the already high number of unsafe abortions. 14% of those in support felt other health cadres lacked the essential skill to conduct abortions but the majority (29%) felt it would encourage sin.17% did not give reasons.

Table 13. Reasons for attitude towards laws that would allow other cadres to conduct abortion.

Support	number	%		**Do not support**	number	%
Would increase access	12	37.5		Lack of skills	15	14.0
Would save more lives	7	21.9		Would increase Unsafe abortions	16	15.0
Would reduce hospital burden	2	6.3		Would encourage sin	32	30.0
Would reduce cost of abortions	3	9.4		Would be abused	26	24.3
No reason	8	25.0		No reason	18	16.8
Total	29	100		**Total**	104	100

Willingness to be trained on management of abortion.

More than half of the respondents (58.2%) did not desire to be trained on how to manage a client seeking an abortion. (Table 14).

Table14. Willingness to be trained on management of a client requesting an abortion

Attitude	number	percentage
Willing	57	40.4
Not willing	82	58.2
Non-response	2	1.2
Total	**141**	**100**

Reasons for attitude towards training on abortion. A large proportion of those that were willing to be trained apparently were looking for skills that would help them stop women from procuring an abortion (n=21, 38.2%) Table 15. Others (9%) felt the training would equip them to promote safe motherhood and to save life (18%). 12% felt they would acquire information that they would later on pass to clients. 16% felt that with such training they would be better prepared to face such a client while 5% did not give a reason.

More than half of those not willing to take the training felt that by taking the training they were likely to take part in something that would lead to sin and 4% feared they may be tempted to offer an abortion if so trained. Almost a quarter of these did not give any reason while 8% just do not have the interest. A further 4% felt that such training should be left only to doctors.

Table 15. Reasons for attitude towards training on abortion

willing	number	%		Not willing	number	%
Can learn to prevent women from aborting	21	38.2		It's like participating in sin	45	53.6
Can be enabled to promote safe motherhood	5	9.1		May be tempted to conduct abortion	3	3.6
May help me save life	10	18.2		Not interested	7	8.3
Can impart knowledge gained to clients	7	12.7		Have no time	2	2.4
Would become prepared for such cases	9	16,4		Not comfortable with idea	4	4.8
No reason	3	5.5		Should be restricted to doctors	3	3.6
				No reason	20	23.8
Total	57	100		Total	82	100

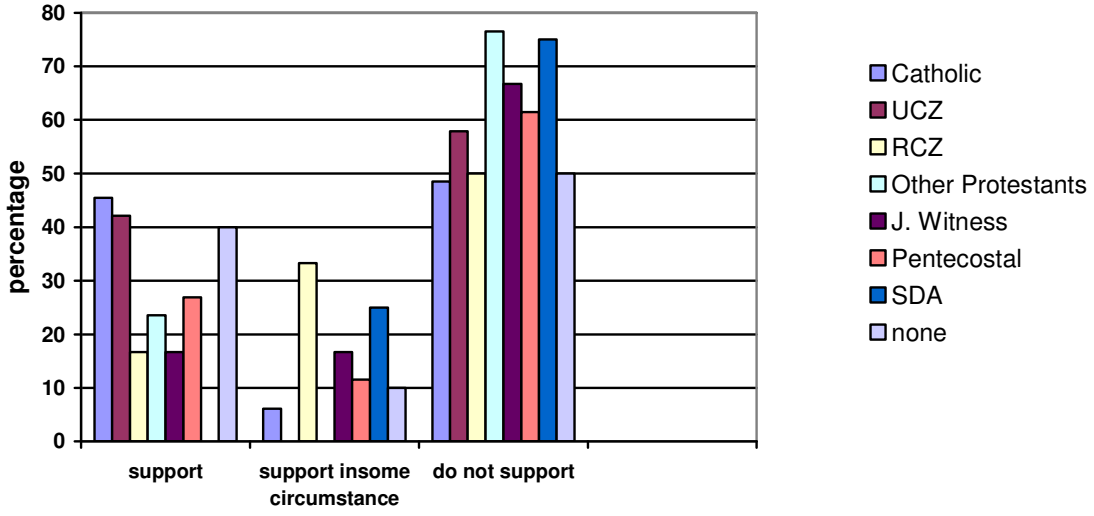
Attitude and religious denomination. Almost all denominations were represented in the support for abortion category. It was noted that almost as many Catholics supported as did not (45.4% vs. 48.5%). (Table 16, figure7).

Table 16. Attitude among the different religious denomination.

attitude	Denomination							
	Catholic n (%)	UCZ n (%)	RCZ n (%)	Other Protestants n (%)	J. Witness n (%)	Pente-costal n (%)	SDA n (%)	None n (%)
Support	15 (45.4)	8 (42.1)	1(16.7)	4 (23.5)	1 (16.7)	7 (26.9)	0 (0)	8 (40)
Support in some circumstances	2 (6.1)	0(0)	2(33.3)	0(0)	1 (16.7)	3 (11.5)	3 (25)	2(10)
Don't support	16 (48.5)	11 (57.9)	3 (50)	13 (76.5)	4 (66.7)	16 (61.5)	9 (75)	10 (50)
total	**35* (100)**	**19 (100)**	**6 (100)**	**17 (100)**	**6 (100)**	**26 (100)**	**12(100)**	**20(100)**

*includes 2 non-responses

Figure7. Attitude among the different denominations

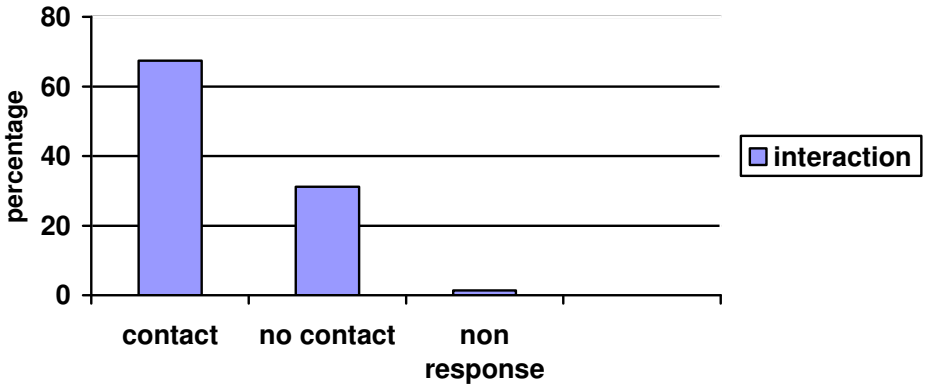


Contact with client requesting for an abortion. Over two thirds (67.4%) of participants have had contact with a client requesting an abortion for one reason or the other. (Table 17, Figure 8).

Table 17. Contact with client requesting for an abortion

	Number	**%**
Contact	95	67.4
No contact	44	31.2
Non-response	2	1.4
total	**141**	**100**

Figure 8. Level of contact of particpants with clients seeking abortion



Action taken by those who had contact. A total of 95 of the 141 respondents (67.4%) had been faced with a client requesting for an abortion. (Table 18). Of these, only three participants offered to terminate the pregnancy. Two (2.1%) said they did nothing, 24 (25.3%) referred the client to a doctor and 4 (4%) referred to another colleague. Nine (9.5%) told the client that abortion was sinful while 6 (6.3%) sent the client away as the reason advanced was not good enough. Twenty one (22.1%) encouraged the client to keep the pregnancy and 23 (24.2%) counseled the client about the possible risks of abortion procedure. Interestingly 3 (3.2%) told the clients that such services were unavailable.

Table 18. Action taken by those who had contact

Action taken	**number**	**percentage**
Offered abortion	3	3.2
Did nothing	2	2.1
Referred to doctor	24	25.3
Told her to keep as reason not valid	6	6.3
Told her it was sin	9	9.5
Encouraged her to keep pregnancy	21	22.1
Referred to another colleague	4	4.2
Counseled her about risks of abortion	23	24.2
Told her that services are unavailable	3	3.2
total	**95**	**100**

Provision of abortion. Of the three participants who provided an abortion to the client, one was a nurse while the other two were doctors. (Table 19). The nurse used an unspecified medical method while the doctors used manual vacuum aspiration.

Table 19. Summary of the circumstance, method used, and the cadre that performed the three abortions in this study.

cadre	circumstance	method
Nurse	Widow with hostile in-laws	medical
Doctor	Medical reason	MVA
Doctor	Mentally retarded (victim of incest)	MVA

Sensitivity analysis

Since the response rate was just under 70% (as illustrated in Table 1 shown again below), sensitivity analysis was conducted to determine the effect of the non-responses. There were a total of 65 non-responders (46 from the public sector and 19 from the private sector).

Table 1. Questionnaire Distribution and Response

	Questionnaires distributed n (%)	**Questionnaires completed** n (%)	**Response** proportion (%)	**Numbers of non-responders**
Public	150 (73%)	104 (73.7%)	104/150 (69.3%)	46
Private	56 (27%)	37 (26.2%)	37/56 (66.1%)	19
All	206 (100%)	141 (100%)	141/206 **(68.4%)**	**65**

The sensitivity analysis entailed assuming that all non-responders answered at the extremes (i.e. good knowledge, or none). This was then repeated for the Public and Private Institutions separately.

Sensitivity Analysis: Knowledge

If all non-responders had returned the questionnaire and were graded 'good' for the knowledge questions, at the most 68.4% of all respondents would have been graded good (as opposed to the previous 53.9%). (Table 3(S1)).This would then have meant that about 19.9% would not have 'good' knowledge. Conversely, if all non-responders had returned the questionnaire and were graded 'none' for the knowledge questions, at the most 51.5% of all respondents (as opposed to the previous 29.1%) would have been graded none. It can be surmised that if all questionnaires had been returned, and taking the extreme answers, there would have been 37.1-68.4% of respondents with a 'good' rating. Similarly, there would have been 19.9-51.5% with 'none' grading.

Table 3. (Original) Level of Knowledge of the law among respondents by Institution (N=141)

Level of knowledge	Public n (%)	Private n (%)	All N (%)
Good (>60% answers correct)	52 (50.0)	24 (64.9)	76 (53.9)
Some (41-60% answers correct)	13 (12.5)	7 (18.9)	20 (14.2)
Poor (1-40% answers correct)	4 (3.8)	0 (0)	4 (2.8)
None (0% answers correct)	35* (33.7)	6 (16.2)	41 (29.1)
Total	104 (100)	37 (100)	141 (100)

*includes 1 incomplete response

Table 3(S1). Level of Knowledge of the law if all 65 non-responders answers had been classified either 'Good' or 'None'. (Private and Public institutions combined, N=206).

Level of knowledge	All n (%)	All 65 non-responders answers 'Good' n (%)	All 65 non-responders answers 'None' n (%)	Range %
Good (>60% answers correct)	76 (53.9)	***141 (68.4)***	76 (37.1)	37.1-68.4
Some (41-60% answers correct)	20 (14.2)	20 (9.7)	20 (9.7)	
Poor (1-40% answers correct)	4 (2.8)	4 (1.9)	4 (1.9)	
None (0% answers correct)	41 (29.1)	41 (19.9)	***106 (51.5)***	19.9-51.5
Total	141 (100)	206 (100)	206 (100)	

Disaggregating by public and private and clinic participants:

Doing the same as previously but this time disaggregating by public and private clinic participants, gives the ranges as shown in Tables 3S2 and S3.

Table 3(S2). Level of Knowledge of the law: Public institutions, if all 46 non-responders (NR) answers classified either 'Good' or 'None' (N=150)

Level of knowledge	**Public** (original respondents) n (%)	If all 46 NR answers 'Good' n (%)	If all 46 NR answers 'None' n (%)	Range %
Good (>60% answers correct)	52 (50.0)	***98 (65.3)***	52 (34.7)	34.7-65.3
Some (41-60% answers correct)	13 (12.5)	13 (8.7)	13 (8.7)	
Poor (1-40% answers correct)	4 (3.8)	4(2.7)	4 (2.7)	
None (0% answers correct)	35 (33.7)	35 (23.3)	***81 (54.0)***	23.3-54.0
Total	104 (100)	150 (100)	150 (100)	

Table 3(S3). Level of Knowledge of the law: Private institutions, if all 19 non-responders (NR) answers classified either 'Good' or 'None' (N=56)

Level of knowledge	**Private** (original respondents) n (%)	All NR answers 'Good' n (%)	All NR answers 'None' n (%)	Range %
Good (>60% answers correct)	24 (64.9)	***43 (76.8)***	24 (42.9)	42.9-76.8
Some (41-60% answers correct)	7 (18.9)	7 (12.5)	7 (12.5)	
Poor (1-40% answers correct)	0 (0)	0 (0)	0 (0)	
None (0% answers correct)	6 (16.2)	6 (10.7)	***25 (44.6)***	10.7-44.6
Total	37 (100)	56 (100)	56 (100)	

The same analysis is done for other aspects of knowledge, e.g. whether the law allows for abortion. If all non-responders indicated that the law allows abortion then at most 68% of all respondents would have given this answer (as opposed to 53.2% previously) (see Table 6(S) below). If the non-responders had indicated that the law does not allow abortion then a total 41% of the respondents would have so stated (14.2% previously).

Table 6(S). Knowledge of whether the current law allows abortion. Assuming all 65 non-respondents state current law either 'allows' or 'not allows' for abortion.

	Original **N (%)**	**All 65 non-responders say 'Allows'** **N (%)**	**All 65 non-responders say 'Not Allows'** **N (%)**	**Range** **(%)**
Allows	75 (53.2)	***75+65 (68.0)***	75 (36.4)	36.4-68.0
Not allows	20 (14.2)	20 (9.7)	***20+65 (41.3)***	9.7-41.3
Don't know	46 (32.6)	46 (22.3)	46 (22.3)	
Total	141 (100)	206 (100)	206 (100)	

Sensitivity Analysis: Attitude

Similarly, if all the 65 non- responders had indicated 'support' for abortion then this would have increased to almost 53% (Table 8(S)). If all the non-respondents had indicated 'do not support', that group would have increased to over 71%.

Table 8(S). Attitude towards laws that allow abortion. Assuming all 65 non-respondents either 'support' or 'not support' abortion.

Attitude (on abortion)	Original N (%)	All 65 non-responders say 'Support' Number (%)	All 65 non-responders say 'Not Support' Number (%)	Range (%)
Support	44 (31.2)	***44+65 (52.9%)***	44 (21.4)	21.4-52.9
Support in some circumstance	13 (9.2)	13 (6.3)	13 (6.3)	
Do not support	82 (58.2)	82 (39.8)	***82+65 (71.4%)***	39.8-71.4
Missing response	2 (1.4)	2 (1.0)	2 (1.0)	
Total	141 (100)	206 (100)	206 (100)	

Also, if all the 65 non- responders had indicated 'support other cadres' to conduct abortion then this would have increased to almost 46% (Table 12(S)). If all the non-respondents had indicated 'do not support', that group would have increased to 82%.

Table 12(S). Attitude towards laws that would allow cadres other than doctors to conduct abortions. Assuming all 65 non-responders either support or do not support other cadres.

Attitude (on other cadres)	**Number (%)**	**All 65 non-responders say 'Support' other cadres Number (%)**	**All 65 non-responders say 'Not Support' other cadres Number (%)**	**Range (%)**
Support	29 (20.6)	***29+65 (45.6%)***	29 (14.1)	14.1-45.6
Do not support	104 (73.8)	104 (51.5)	***104+65 (82.0%)***	51.5-82.0
Not stated	8 (5.7)	8 (3.9)	8 (3.9)	
Total	141 (100)	206 (100)	206 (100)	

The corresponding range for attitude on willingness to be trained changes is 27.7-59.2% when the non-responders are taken into account. (Table 14(S)).

Table14(S). Willingness to be trained on management of a client requesting an abortion

Attitude	**Number (%)**	**All 65 non-responders say 'Willing' Number (%)**	**All 65 non-responders say 'Not willing' Number (%)**	**Range (%)**
Willing	57 (40.4)	*57+65* ***(59.2%)***	57 (27.7)	27.7-59.2
Not willing	82 (58.2)	82 (39.8)	*82+65 (**71.4%**)*	39.8-71.4
Non-response	2 (1.4)	2 (1.0)	2 (1.0)	
Total	**141 (100)**	**206 (100)**	**206 (100)**	

Contact: If all 65 non-responders had contact or did not have contact with clients seeking abortion, the corresponding percentages are shown in Table 17(S) below.

Table 17(S). Contact with client requesting for an abortion

	Number (%)	All 65 non-responders had 'Contact' Number (%)	All 65 non-responders had 'No contact' Number (%)	Range (%)
Contact	95 (67.4)	*95+65 (**77.7**)*	95 (46.1)	46.1-77.7
No contact	44 (31.2)	44 (21.4)	*44+65 (**52.9**)*	21.4-52.9
Non-response	2 (1.4)	2 (1.0)	2 (1.0)	
total	**141 (100)**	**206 (100)**	**206 (100)**	

Summary

The sensitivity analysis shows the best case and worst case scenarios if all the non-responders were included. The results still show marked lack of knowledge, that attitude is variable and at best about three quarters of participants would have had contact with a client seeking an abortion.

DISCUSSION

Abortion is a sensitive topic and is not freely discussed among the various groups of people in communities and work places. Therefore even with a data collection tool that assures confidentiality individuals would shy away from giving responses. In this survey there were 31.6% non-responders. Research assistants in some study sites reported refusal to participate by some health workers due to lack financial gain from participation. This phenomenon may cause research to be difficult in our health institutions. Discussing controversial issues such as abortion especially among health workers is important so as to achieve consensus. Open discussions where all views are accommodated such as the one initiated by the Zambia Medical Association (ZMA) could be beneficial. The Zambia Medical Association held a public debate on the issues surrounding abortion during the study period. The debate went on for months in the media.

However, despite the non-responders, the sensitivity analysis as presented at the end of the Results section showed that even if all non-responders had answered one way or another, there is still a marked lack of knowledge, that attitude is variable (including towards the negative) and at best about three quarters of participants would have had contact with a client seeking an abortion.

Primary health care in the Lusaka DHMT facilities is generally nurse driven and also reflected by the response pattern in this survey. This is the cadre that can transform the abortion services in Zambia. In South Africa elective abortions of pregnancies up to a gestation period of 12 weeks are provided by trained nurses and midwives. In this study doctors made only 4% of respondents. Yet each

primary health care facility under Lusaka DHMT included in this study has at least one doctor and the private institutions have more than one. It is either that the doctors are among those that shied away from the topic or it is a demonstration of their unavailability at these facilities despite being on the duty schedule.

The Termination of Pregnancy Act of 1972 provides that a health worker who has a conscientious objection to perform an abortion should refer the client to another health worker, a doctor, who can. Because of the low referral rate to UTH for elective abortion against a high demand for the service, it was expected that the health workers' knowledge of the abortion act would be very low. However in this study, 55% of the respondents demonstrated good knowledge of the abortion law. The fact that 29% of respondents overall showed no knowledge of the abortion law impacts negatively on the provision of safe abortion services.

It can be assumed that those that had no knowledge of the existence of the law think abortion is illegal and may turn away clients who might later resort to unsafe abortions. Some of the reported negative attitudes by health workers (Castle et al 1990; Webb 2000; Dahlback 2006) could be due to this ignorance demonstrated by this category of respondents. It is encouraging that the respondents from the private institutions demonstrated good knowledge with fewer respondents having no knowledge of the existence of the law on abortion (16% Vs 33% of those in the public institutions). The private institutions are better placed in the current Zambian health scenario to provide abortion services with privacy.

In their training doctors are familiarized to the topic of abortion. This is in an effort to reduce maternal morbidity and mortality. It is not surprising therefore that all the doctors in this survey exhibited good knowledge of the abortion act. Midwives and general nurses, contributed largely to the category of respondents that had no knowledge of existence of the abortion law yet these are more likely to have first contact with the client requesting an abortion. If they are ignorant they may turn these clients away. A previous study showed that nurses in Zambia and South Africa were unfamiliar with problems of abortions (Ndhlovu 1999) and clearly a good number of the Zambian nurses are unfamiliar with the law on abortion as this study has shown.

Only a third of the pharmacist showed good knowledge and yet this category has also been implicated to be providers of abortion by previous research (Dahlback 2006; Castle et al 1990). The number of years in service has little bearing on the level of knowledge of the law, because even those in the category that have been in service for more than 15 years in facilities that offer maternal and child health care 28% had no knowledge of the existence of an abortion law in Zambia. Lack of continuous education could be the issue here. Even if the referrals to UTH do not reflect this, most respondents showed a good understanding of the circumstances that the current abortion law provides for an abortion to be conducted. But for some respondents these circumstances could have been misunderstood to mean that abortion is illegal as 14% actually stated that the abortion law does not allow abortion and these included apparently those who had exhibited good knowledge of the abortion law overall.

Most literature on abortion in Zambia is based on views of the seeker of abortion services and these are often negative towards the health staff (Webb 2000; Castle et al 1990; Koster-oyekan 1998). This study has demonstrated that most of the health workers do not support abortion or laws that allow abortion. This is a huge barrier to provision of safe abortion services. Religious belief is the major reason forwarded by most respondents. This is in contrast to the Zimbabwe situation as demonstrated by Kasule (Kasule et al 1999) were most health workers are supportive of liberal laws on abortion and religion had little bearing on their attitudes. Ironically, Zambia has a more liberal abortion law than Zimbabwe. Christianity is the largest faith in Zambia to the extent that the country was declared a Christian nation. Respondents who did not support abortion brought up very strong moral reasons which might not be shaken even with logical persuasion.

Those that supported abortion seemed to understand that having liberal abortion laws could, to some extent, reduce maternal morbidity and mortality. It could be with this understanding that almost half of catholic respondents unexpectedly supported liberal abortion laws. Making health workers have this understanding is the crucial challenge for policy makers in quest to reduce maternal mortalities. Abortion on demand in Zambia is still far-fetched if most health workers do not support laws that allow abortion services. What is reassuring though is that only a quarter of respondents would not support abortion at any gestation age. It appears that among the respondents the earlier the gestation of a pregnancy the more supportive they are of abortion. This is the compromise that even prominent pro-life groups in the United Kingdom seem to be offering, to reduce

the legal maximum gestation age at which an elective abortion can be performed. It currently stands at 24 weeks (Gornall 2007).

Expanding access to safe abortion services in a country very constrained with human resource especially doctors, is a huge challenge. In many areas of medicine responsibilities which were a preserve of doctors are now being performed by other health staff such as clinical officers and nurses. These always rise to the challenge of these responsibilities but the challenge of performing an abortion was overwhelmingly rejected and for such reasons as lack of skill and fear of abuse. The paradox though is that the same cadre has been successfully trained to provide PAC which involves performing an MVA (Kaseba et al 1998). The graveness of the negative attitude towards abortion is demonstrated by the overwhelming rejection even of the suggestion of offering training on how to approach a client requesting for an abortion.

This study has confirmed that the demand for abortion services is high. This was indicated by the number of respondents that had had contact with clients requesting for an abortion. The majority of these clients were virtually turned away after some form of counseling. Judging from the relatively good score on the knowledge of the abortion law some respondent must have known the lawful thing to do but chose to do what they personally felt was right. The clients that are turned away could be the ones presenting at UTH with complications after resorting to illegal and unsafe abortion.

As stated earlier abortion is a sensitive topic. Thus despite literature's persistent implication of health staff in providing illegal and unsafe abortions, this study only identified 3 providers i.e. 3% of respondents. Two of these appear to have

provided the service in a legal and safe manner. Identifying willing providers of safe abortions is also crucial in improving access to safe abortion services. Even if the law were to be made more liberal, the absence of willing providers would still be a barrier to access. This was shown in South Africa and Belgium. (Dickson et al 2003 and Donnay et al 1993 respectively). The solution to these challenges in Lusaka may lie in establishing a well organized referral system for clients seeking abortion services.

LIMITATIONS

This study used a convenience sampling method which limits the generalization of the findings. This method of sampling was decided upon in light of the controversy that surrounds abortion and the anticipated reluctance to participate (as was encountered with some private institutions that refused to participate). This was compounded by limited funding which could not allow for a wider sample.

It was also difficult to ensure that all responses are given in that it was a self administered questionnaire that was used. It was also difficult to have respondents fill the questionnaire in one sitting as was intended because the respondents were on duty at the time the questionnaire was given to them. This allow for the participant to consult especially on the knowledge section. In some study sites research assistant reported that there was refusal to participate because there was no monetary reward for participating.

CONCLUSIONS

There are gaps in the knowledge and understanding of the law on abortion among health workers in both Lusaka district management team and the private institutions. These gaps cut across the different categories of health workers in these institutions and the years in service of a health worker do not appear to correlate to their knowledge.

Elective abortion other than that prescribed for purpose of saving a woman's life is not generally accepted by majority of health workers in both Lusaka DHMT and private institutions. The attitudes appear to be largely influenced by religious beliefs.

The demand for abortion services in Lusaka appears to be high but the health workers are not available to provide it due to their negative attitude or inadequate knowledge of the law.

There was no clear indication of the as to the extent to which health workers provide unsafe abortions among respondents.

To reduce morbidity and mortality from unsafe abortion, safe abortion services need to be established at the primary health care level. In the case of Lusaka district a lot of work is needed in educating the health workers about reproductive health rights and the legal frame work for abortion in Zambia.

RECOMMENDATIONS

1. Health workers in the Lusaka DHMT and private institutions should be sensitized about the Zambian abortion law and its provisions.

2. An awareness campaign on sexual and reproductive health rights should be launched among health workers.

3. A referral system which is non discriminatory against women seeking abortion care should be established so that women can access the service. Providers of post abortal care should be focal persons for such a system.

4. Doctors in the clinics should take a more active role in prevention of unsafe abortions as this could be a step towards achieving the Millennium Development Goal with respect to maternal mortality.

REFERENCES

1. Anibal F, Graciana AD, Jorge AN, Maria H. The closer you are the better you understand; the reaction of Brazilian obstetrician/gynaecologists to an unwanted pregnancy. Reproductive Health Matters. 2004; 12(24 supplement): 47-56.

2. Baker J, Khasian S. Induced abortions in Kenya: case histories. Studies in family planning. 1992; 23 (1):34-44.

3. Blanchard K, Cooper D, Dickson K, et al. A comparison of women's, providers' and ultrasound assessments of pregnancy duration among termination of pregnancy clients in South Africa. BJOG. 2007 May;114(5):569-75.

4. Bland M. An Introduction to Medical Statistics. Third Edition. Oxford: Oxford University Press, 2000.

5. Bradley J, Sikazwe N, Healy J. improving abortion care in Zambia. Studies in Family Planning. 1991; 22 (4) 391-394.

6. Castle MA, Likwa R, Whittaker M. Observations on abortion in Zambia. Studies in Family Planning. 1990 Jul-Aug; 21(4): 231-5.

7. Central Statistical Office (CSO) Zambia, Ministry of Health (MOH), Tropical Diseases Research Centre (TDRC), University of Zambia, and Macro International Inc. 2009. *Zambia Demographic and Health Survey 2007.* Calverton, Maryland, USA: CSO and Macro International Inc.

8. Central Statistical Office (Zambia), Central Board of Health (Zambia) and ORCMacro.2003. Zambia demographic health survey 2001-2002. Calverton, Maryland, USA: Central Statistics Office, Central Board Of Health and ORC Macro.

9. Central Statistical Office (Zambia), Ministry of Health and Macro International Inc. 1997. Zambia Demographic and Health Survey 1996. Calverton, Maryland: Central Board Statistical Office and Macro International Inc.

10. Cooper D, Dickson K, Blanchard K, et al. Medical abortion: the possibilities for introduction in the public sector in South Africa. Reprod Health Matters. 2005 Nov;13(26):35-43.

11. Dahlback E, Maimbolwa M, Yamba C.B, Kasonka L, Bergstrom S, and Ransjö-Arvidson A.B. Unsafe abortions among adolescent girls in Lusaka. Health Care Women Int. 2007 Aug; 28(7):654-76.

12. Dickson L.E, Jewkes R.K, Brown H, Levin J.R. Abortion service provision in South Africa three years after liberalization of the law. Studies in Family Planning. 2003 Dec; 34 (4): 277-84

13. Donnay F, Breentzer A, Leemans P, Verougstrate A, Vekemans M. Safe abortions in an illegal context: perceptions from service providers in Belgium. Studies in Family Planning. 1993 May- June; 24(3):150-62

14. Elin R, Janusz K, Pat S, John S, Allyn W. Medical Abortion and family physicians; a survey of residents and practitioners in two Ontario settings. Canadian Family Physician. March 2002.

15. Ferris LE, Mcmain-klen M, Iron K. Factors influencing the delivery of abortion services in Ontario. Family Planning Perspective. 1998. May – June. 30(3): 134-8

16. Gornall J. Where do we draw the line? British Medical Journal 2007, Feb. 334 (7588) 285-289.

17. Henshaw S, Singh S, Oye-Adeniran B, Adenole I, Iwere N, Cuca Y. The incidence of induced abortions in Nigeria. International Family Planning Perspectives 1998, 24(4) 156-164.

18. Kade K, Kumar D, Polis C, Schaffer K. Effects of nurses' attitudes on hospital based abortion procedures in Massachusetts. Contraception. 2004 Jan; 69(1): 59-62

19. Kaseba C, Phiri D, Camlin C, Sanghvi H, Smith T, Chibuye P. Folson M. The Situation of Post Abortion Care in Zambia: An assessment and recommendations. May, 1998.

20. Kasule J, Mbizvo MT, Gupta V. Abortion: Attitudes and perceptions of health professionals in Zimbabwe. Central Africa Journal of Medicine.1999 Sep; 45(9): 239-44

21. Kinoti S.N, Gaffin L, Benson J, Nicholson L.A, Monograph On the complications of unsafe abortion in Africa. 1995.

22. Koster-oyekan W. Why resort to illegal abortions in Zambia? Findings of a community based study in western province. Social Science and Medicine 1998 May; 46 (10): 1303-12.

23. Lie MLS, Robson SC and May CR. Experiences of abortion: A narrative review of qualitative studies. BMC Health Services Research 2008, 8:150

24. Macleod C. Developing Principles for Research about Young Women and Abortion: A Feminist Analysis of Difficulties in Current South African Studies. Feminist Africa. 2008;11: 55-72

25. Ndhlovu M. Nurses' experiences of abortions in South Africa and Zambia. 1999 (unpublished)

26. Nsemukila G, Phiri D. A Study of Factors Associated with Maternal Mortality in Zambia. Ministry Of Health (Zambia), UNFPA, Central Board Of Health. 1998

27. Paxma J.M, Rizo A, Brown L, Benson J. The clandestine epidemic: The practice of unsafe abortions in Latin America. Studies in Family Planning 1993; 24(4) 205-226.

28. Serbanescu F, Moris L, Stupp P, Stanescu A. The impact of recent policy changes on fertility, abortion and contraceptive use in Romania. Studies in Family Planning 1995; 26(2) 76-87.

29. Smith KA, Johnson RL, Medical opinion on abortion in Jamaica: a national Delphi survey of physicians, nurses and midwives. Studies in family planning. 1976 dec; 7 (12) : 334-9

30. Termination of pregnancy act of 1972 of the laws of Zambia.

31. Thapa P.J, Thapa S, Shresta N. A hospital based study of abortions in Nepal. Studies in family planning 1992;23(5) 311-318

32. UNICEF, Safe Motherhood In Zambia: A Situation Analysis, Monograph number 3. New York: Family care international and UNICEF, 1994

33. UTH gynaecology emergency ward C03 admission records

34. UTH Department of Obstetrics and Gynaecology mortality records

35. Varga C.A, Pregnancy termination among South African adolescents. Studies in Family Planning 2002; 33(4): 283-298.

36. Webb D. Attitudes to 'kaponya mafumo' the terminators of pregnancy in urban Zambia. Health Policy and Planning (UNICEF) 2000; 15(2): 168-193

APPENDIX I – Written information and instruction to participant

University Teaching Hospital
Department Of Obstetrics and Gynaecology
P/Bag RW1X
LUSAKA.
Cell**: 096453001 email ameckk@yahoo.co.uk**

To the participant

RE: DISSERTATION RESEARCH

Dear Madam or Sir:

I am conducting a research on the knowledge, attitudes and practice of health workers on termination of pregnancy (abortions). This is in partial fulfillment of the master of medicine program in obstetrics and Gynaecology of the University of Zambia, School of medicine.

Unsafe abortions have resulted in many deaths of women in Zambia and the problem is still big. This study intends to find out the health workers' position on this problem as they are key to solving it. The information collected would help government formulate policies and guidelines, which will reduce the problem. It will also help government plan for how and what information to disseminate to health workers, and through health workers to the public.

The information that you will give in this questionnaire will be taken as confidential. Your name and address are not required. Please drop the completed questionnaire in the sealed box provided at your institution. If you have questions please call on the number provided or write to the above address.

Yours faithfully,

DR. Ameck A. Kamanga BScHB, MBChB (UNZA)

APPENDIX II –ANONYMOUS QUESTIONNAIRE

Part one (tick in box (es) where options are given and write response in the space provided were it is asked for)

1. Age ……years

2. Sex:
    1) Male
    2) Female

3. Marital status:
    1) Married
    2) Single
    3) Widow(er)
    4) Divorced

4. Church / denomination……..

5. Profession
    1) doctor
    2) nurse
    3) midwife
    4) clinical officer
    5) pharmacist
    6) Others specify…….

6. Institution
    1) government hospital
    2) government clinic
    3) private hospital
    4) private clinic

7. Number of years worked
    1) 0 → 5 years †
    2) 6→ 10 years †
    3) 11 →15 years †
    4) above 15 years †

Part two (tick in box (es) corresponding to answer(s))

8. Do you know of any law on abortion in Zambia
    1) yes †
    2) no †

If yes proceed to question 9, if no proceed to part three.

9. what is it called
    1) the abortion law of Zambia †
    2) illegal abortion act Zambia †
    3) the Termination of Pregnancy Act †
10. when was the law on abortion enacted
    1) 1972 †
    2) 1996 †
    3) 1988 †
11. under this law is abortion allowed?
    1) yes †
    2) no †
12. Under what circumstances can a woman be allowed to have an abortion under this law? Tick the circumstance(s) from list below:
    1) To save the life of the woman †
    2) When the woman demands for it †
    3) If the pregnancy is a risk to the woman's mental health †
    4) If pregnancy is a result of rape or defilement †
    5) If the fetus has gross abnormalities †
    6) For economic or social reasons †

13. Where can an abortion be conducted under this law?

    1) In the woman's home†
    2) In any clinic in Zambia†
    3) In a hospital†

14. Who can provide an abortion under this law?

    1) A qualified midwife†
    2) A qualified Doctor†
    3) A clinical officer†
    4) A general nurse†

15. Who can authorize an abortion under this law?

    1) The sister in charge†
    2) A doctor†
    3) A doctor and two other health worker†
    4) Three doctors of which one should be a specialist†

Part three: write your response in spaces provided or tick in the box (es)

16. Do you support laws that allow abortion?

    1) YES†
    2) NO†

17. State your reason(s)

    ……
    ……
    ……
    ……

18. If yes, would you support termination of pregnancy under these circumstances (tick the circumstance you would support)

    1) on request or demand by the woman ↑
    2) in case of rape, defilement or incest↑
    3) if continued pregnancy would pose a risk to the woman's health↑
    4) if the fetus risks having severe physical or mental abnormalities↑
    5) if continued pregnancy would significantly affect the social or economic circumstances of the woman↑
    6) if continued pregnancy would pose risk to existing children↑

19. At which maximum gestational age would you support elective abortion

    1) 12weeks↑
    2) 16weeks↑
    3) 22weeks↑
    4) 24weeks↑

20. If a law was to be enacted that allows nurses and clinical officers to perform elective abortion, would you support it.

    1) YES↑
    2) NO↑

21. State your reasons

    ……
    ……
    ……
    ……

22. If training on how to manage a client requesting for an abortion were offered to you, would you take it?

    1) Yes†

    2) No †

23. State your reasons

……
……
……

Part four:

24. Have you ever attended to client or patient requesting for an abortion?

    1) YES↑

    2) NO↑

25. IF yes what did you do?
    ……
    ……
    ……
    ……

26. Have you ever performed an abortion?

    1) YES↑

    2) NO ↑

27. IF yes what were the circumstances
    ……
    ……
    ……

28. If yes how was it performed?
    ……
    ……
    ……
    ……

29. Did the patient pay for your services?

    1) Yes†

    2) No †