

**A STUDY ON THE KNOWLEDGE, ATTITUDE, AND  
PRACTICE OF MIDWIVES ON INFECTION CONTROL IN  
MATERNITY UNITS IN LUSAKA URBAN CLINICS.**

THESIS

LIB

1997

**By**  
**MIRIAM CHILEMBWE LIBETWA**  
**BSc Nursing, PgHE, DNE, RM, RN**

**A Dissertation submitted to the University of Zambia in  
partial fulfillment of the requirement for the masters degree  
in Public Health.**

**(School of Medicine)**  
**THE UNIVERSITY OF ZAMBIA**  
**LUSAKA**  
**253664**

**1997**

(ii)

### **STATEMENT**

This Dissertation is the genuine work of MIRIAM C. LIBETWA,  
carried out at the maternity units in Lusaka Urban Clinics.

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Dr N. Ng'andu  
**Lecturer**

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Dr K.S. Baboo  
**Lecturer**

(iii)

## **DEDICATION**

This study is dedicated to my four children; Nalumino, Namakau, Ndyeke and Mwauluka.

## APPROVAL

(iv)

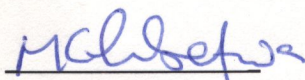
This dissertation of Mrs. Miriam Chilembwe Libetwa is approved as fulfilling the requirements for the award of the degree of Master of Public Health by the University of Zambia.

Signature:

Date:

## DECLARATION

I declare that the work presented in this Dissertation for the Master's degree in Public Health is my own work and has not previously been submitted for a degree at this or another University.



M. C. Libetwa  
**Candidate**



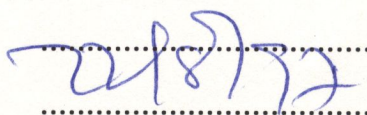
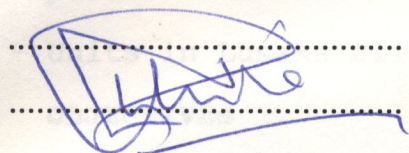
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### HYPOTHESIS

1. Poor infection control practice is due to inadequate materials/equipment.
2. Adequate knowledge of infection control guideline enhances attitude and practice among midwives.

### STUDY DESIGN

A descriptive study design using a structured interview schedule with fixed questions and answers was used to collect data from practicing midwives. A check-list was also used to observe compliance of midwives with infection control guidelines in their working environment.

analysis of the midwives curriculum for both Registered and Enrolled midwives was done. Focus group discussion with Maternity Unit in-Charges was also done.

## **ABSTRACT**

Infection Control is a major problem in UTH, Lusaka. It was important to see if a similar problem occurred in urban maternity units.

**TITLE OF STUDY:** A study on the knowledge, attitude, and practice of midwives on Infection Control in Maternity Units in Lusaka Clinics.

### **OBJECTIVES**

To determine the extent to which midwives working in labour ward understand, accept and practice according to infection control guidelines in their working environment.

### **HYPOTHESIS**

1. Poor infection control practice is due to inadequate materials/equipment.
2. Adequate knowledge of infection control guideline enhances attitude and practice among midwives.

### **STUDY DESIGN**

A descriptive study design using a structured interview schedule with fixed questions and answers was used to collect data from practicing midwives. A check-list was also used to observe routines of midwifery care. Content analysis of the midwives curriculum for both Registered and Enrolled midwives was done. Focus group discussion with Maternity Unit in-Charges was also done.

**SETTING:** Six maternity units in Lusaka Urban District, namely Chilenje, Kanyama, Chawama, George, Chelston and Chipata Health Centres, were included.

#### **SAMPLE SIZE**

42 midwives were observed as they carried out the midwifery routines of care. The same midwives were interviewed.

#### **RESULTS**

Generally the midwives, both Enrolled and Registered, did not practice the Universal Infection Control. The midwives who qualified after 31 December 1987, practiced hand-washing more often than those who qualified before 31 December 1987. The contributing factors to non-practice of the Universal Infection Control stemmed from the lack of supplies, especially the gloves, plastic aprons, disinfectants and the use of the autoclave and principles thereof. The institutions did not have any guidelines on Infection Control, and as a result, midwives provided the care as long as no one was visibly in danger.

None of the respondents had ever attended any workshop on Infection Control and they perceived themselves at risk of contracting HIV/Hepatitis because of the non-practice of the Universal Infection Control. The data showed that midwives were performing artificial rupture of membranes on all the patients who were admitted with intact

membranes. Episiotomy seemed to be performed on all primigravidae women who were aged between 10 and 20 years old.

## CONCLUSION

In view of the poor practice of Infection Control by midwives in the six maternity units, there is need for the government, particularly Ministry of Health, with the relevant authorities to institute an Infection Control Policy, which will provide guidance for practice. There is the need for the District Health Management Board to collaborate with the General Nursing Council and the Quality Assurance Programme team in implementing and monitoring the practice. The practice can only be of quality if the necessary resources were available and if Midwives observed the basic practice in infection control.



### **ACKNOWLEDGEMENTS**

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( x )

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## CHAPTER I

### 1.0 INTRODUCTION

Nurses make up 85 percent of the health workers in Zambia, Kanyama *et al* (1992). Zambia has a population of 9.2 million. The health care system is currently undergoing a reform. The country has 72 districts. Lusaka Urban District has 9 maternity units operating on a 24 hours basis, serving a population of over 1.3 million people, according to Central Statistics Survey of 1996. With effect from 16th September 1996, normal deliveries, except special cases, are to be delivered from the health centres. The Ministry of Health monthly report shows an upward trend in the number of nurses dying every month. Foster *et al* (1990) in her study on the mortality among female nurses in the face of the AIDS Epidemic in Southern Province, states that the increase in mortality, could be largely attributed to HIV infection. Libetwa *et al* (1996), showed that the majority of nurses/midwives in UTH died from PTB and HIV/AIDS. Could there be something in their working environment contributing? Kanyama *et al* (1992), states that there is no denominator data which exists to determine a rare or obstetrical related cases which has been reported to prove the association; studies in the developed countries have shown that very few health workers have contracted HIV infection through needle prick. Unpublished study in UTH (Libetwa *et al*, 1996), established that the annual death rate among nurses was between 1-2 percent in the past

4 years (1992-1996). Due to limited studies on the mortality of midwives, the researcher found it difficult to establish the ratio of midwives dying in relation to other nurses.

The rapidly increasing number of people affected by the HIV Epidemic demands that nurse midwives meet the challenge of the Epidemic with renewal and sustained sense of urgency and vigour. The tragic impact of the AIDS Epidemic on nations in the sub-SAHARAN Africa is compounded by the fact that it is occurring at a time of great economic difficulty when many governments have been forced to cut social, health and education services as part of economic adjustment policies. There is need, therefore, to establish a sensible and practical routine for the prevention of infection, if the transmission of infection is to be minimised in the labour wards of Lusaka Urban Maternity Clinics.

### **1.1 TITLE**

Knowledge, attitudes and practice of midwives on infection control in maternity units of Lusaka Urban Clinics.

### **1.2 HYPOTHESIS**

1. Poor infection control practice is due to inadequate materials/equipment.
2. Adequate knowledge of infection control guideline enhances attitude and practice among midwives.



### **1.3 GENERAL OBJECTIVE**

To determine the extent to which midwives working in labour wards understand, accept and practice according to infection control guidelines in their working environment.

### **1.4 SPECIFIC OBJECTIVES**

1. To assess availability of equipment/material for infection control.
2. To examine the infection control policies available in the institution.
3. To determine the midwives' attitudes towards the universal infection control guidelines.
4. To establish the perceived risk for non practice of infection control guidelines.
5. To make recommendation to the Lusaka Urban District Health Board and Ministry of Health to establish infection control policy.

### **1.5 STATEMENT OF THE PROBLEM**

Patients with HIV/AIDS and hepatitis infection, present the health care personnel with a wide range of new problems in biology, therapy and behaviour. But more striking is that AIDS, among other infections, has led to the re-surfacing of older problems that did not seem to require

specific solutions but now are threatening to defeat the health care providers, unless they are seriously addressed eg TB.

For the midwives to be able to perform all aspects of their job more efficiently they require easily and quickly obtainable information, appropriate training and the necessary material and psychological support.

The World Health Organization (WHO), in its report to the European Charter on Environment and Health in 1992, stressed that good health requires a clean and harmonious environment in which physical, psychological and aesthetic factors are all given their due importance.

In order to achieve this stated objective a study on the infection control in the maternity Units in Lusaka Urban Clinics providing 24 hours maternity service needs to be done to establish the safety of the midwives in these institutions. The study is to address concerns that caring for women and neonates during labour, delivery and the postpartum period increases a health care providers risk of acquiring infections. It is, therefore, important to equip the midwives with knowledge that allow them to carry out their duties more effectively and reliably.

The challenge the nurse midwives have to face is to maintain high standards of practice despite the spiralling cost of health care and the economic hardships that most

countries are undergoing Zambia in particular. (Collins, 1992) in his report to the Chief Nursing Officer states that Policies and rates for practice should produce a series of frameworks which bring order and consistency to practice and set minimum standards. They should provide the necessary basis for professional accountability.

(Brathebo, 1990), in his study of Health Workers Human Immunodeficiency Virus Knowledge, Ignorance and Behaviour, noted that the health workers reported not using gloves while exposing themselves to blood, for example, performing phlebotomies. The paper further states that people tend to under-estimate health hazards despite sufficient knowledge.

#### **1.6 JUSTIFICATION**

1. Very few studies on infection control have been done in the developing countries. It would, therefore, be interesting to carry out the study in urban health centres which provide a 24 hours maternity service.
2. The findings from this study will be used for policy formulation regarding the allocation of funds for the protective equipment for midwives in their working environment.
3. Quality care can be improved in the health centres.

### **1.7 INDICATORS**

1. The proportion of midwives trained in infection control procedures.
2. Are protective materials or equipment necessary for infection control available?
3. The proportion of midwives practicing according to infection control guidelines.
4. The availability of guidelines which safeguard the midwives' practice.
5. The proportion of reusable syringes in the clinic.
6. The proportion of working sterilizers in the clinic.

### **1.8 METHOD OF WORK**

1. (i) Content analysis of existing policies on the infection control and prevention of infection in use in the institutions.  
(ii) Review of nursing and midwifery curricula.
2. Observational: The unit of analysis is from the time of admission in established labour to one hour after delivery.
3. Interview Schedule: The data will be collected during the day time.

### **1.9 DEFINITION OF TERMS**

1. MIDWIFE: A person who is registered with the general nursing council. He/she is able to conduct deliveries on her own responsibility and care for new born.
2. ENROLLED MIDWIFE: One who has done 2 years basic training and one year midwifery training.
3. REGISTERED MIDWIFE: One who has done 3 years basic training and one year midwifery training.

### **UNIVERSAL CONTROL PRACTICE**

WHO recommended principles of infection control.

### **KNOWLEDGE**

Understanding and working according to WHO stipulated infection control guidelines.

### **QUALITY CONTROL**

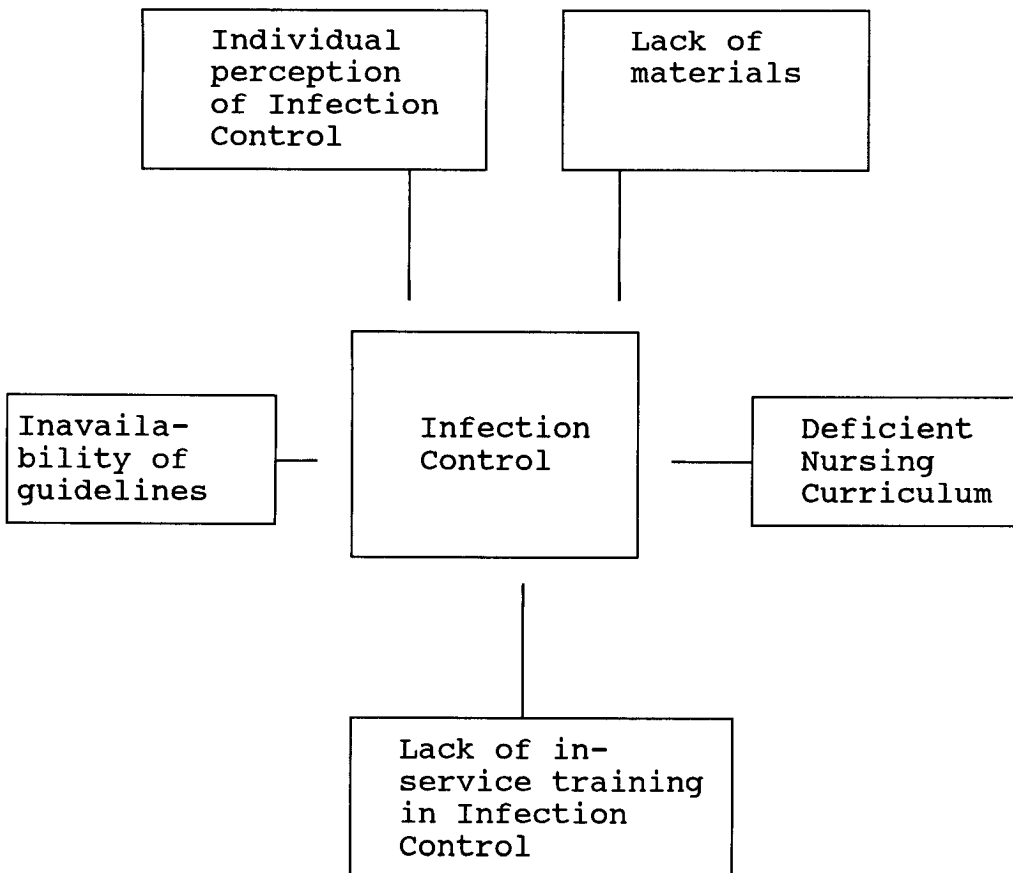
Proper performance according to standards of interventions that are known to be safe, affordable to the community and have the ability to produce an impact on mortality and morbidity.

**ATTITUDE**

Accepting or not accepting the infection control guidelines.

**1.10 VARIABLES**

1. Lack of materials and equipments.
2. Inavailability of guidelines.
3. Deficient nursing curriculum.
4. Individual perception of infection control.
5. Lack of in-service training in infection control.



## CHAPTER 2

### 2.0 LITERATURE REVIEW

Control of infections in general practice, has received increasing attention in recent years in the developed world, particularly with the emergence of the human immunodeficiency virus (HIV). Several authors have commented on the safety of various decontamination procedures, and others have reported surveys of the procedures currently in use. Recommendations for appropriate procedures have also been given. There is need for midwives to be aware of the problems that are presented by infection. It is important to note that the main focus of this study is cross infection from patient to patient, from patient to health care giver. The HIV infected health care worker risks infecting patients during routine work activities, but may be more so during invasive procedures. In addition, HIV infection will progressively impair the immune system and consequently, HIV infected health care workers are more likely to acquire infections from patients with contagious diseases e.g. pulmonary tuberculosis.

Odugbemi *et al*, (1983), in their study on the prevalent hospital acquired infection, states that the concept of infections being acquired in hospital is not a new one and the risk of acquiring communicable diseases in health care institutions was recognised by such famous nineteenth century scientists such as Robert Koch, Joseph



Lister and Louis Paster. He further states that nosocomial infections in developing countries are under reported but that hospital acquired infections constitute a serious problem both in developed and developing countries in that, they cause significant morbidity and mortality.

One of the principles according to Tanava Kwarleng *et al*, (1995) is that, people learn by talking. Effective prevention strategies must include the concept of education through dialogue rather than just education through the media such as poster and radio. The midwife has the responsibility to clarify hospital safety procedures and medical policies of management to the patient and members of the community. (Chewynd, 1990) in his study on Hospital Infection Control, found out that the doctors who were seeing larger numbers of patients requesting for HIV for blood testing, were more likely to use gloves than those seeing small numbers of such patients. Bhawani *et al* (1993), emphasised the importance of enabling people to identify their own priorities and to respond in an appropriate way.

Friedland, (1995), in his paper on Clinical Care, points out that the principles of clinical care are similar throughout the world. They consist of comprehensiveness, continuity, competence, compassion and cost effectiveness. However, clinical care is strongly influenced by the

availability of resources, clinical structures and expertise. The fight against AIDS will be meaningless if policy makers are not sensitised on the impact of the deadly epidemic. Zambia has been accused of fighting the AIDS battle blindly with no concrete policies in place. The need for government policy on AIDS cannot be overemphasised. The policy on AIDS will show commitments to the fight. This is in line with the health reforms policy package which emphasises improving quality assurance and treatment effectiveness. In order to implement the health system, the Zambians must assert their belief and action in preventing illness through a healthy way of life by taking full advantage of opportunities, and being responsible for their own health. Indeed, the midwives must be accountable for their actions as they nurse their clients in labour ward. It is not practical or desirable to identify everyone who is infected with HIV. The strategy for preventing HIV transmission in the Health Care setting, is to view everyone as having the potential of being infected. The only reason to focus on identified infected individuals is to provide counselling, support, treatment and care.

Planning for Nursing and Midwifery services is impossible until answers are found to the basic questions of what the identified health needs are, what services should be provided and with what objectives and what human,

financial and material resources are available to support them.

The International Council for Nurses and the World Health Organization, recommended the inclusion of universal precautions into current nursing practice. How much of these recommendations are being practiced? It is important to critically assess the major areas of concern in the care of pregnant women in labour, subsequent delivery and baby care. These are as follows:-

1. Prevent injuries from needles and other short instruments.
2. Prevent exposure to open wounds and mucous membranes.
3. Prevent HIV transmission via contaminated instruments.
4. Spills of blood or other body fluids onto surfaces, e.g. table or floor.
5. Disposal of waste.

In order to actually practice the above mentioned recommendations, materials/equipment, must be available to the nurse midwives, in order for them to provide quality care to patients without transmitting HIV, hepatitis and other infections, through the afore-mentioned areas. Since HIV/AIDS remains unique in the sense that:-

1. it affects young people and the most productive age groups, disproportionately;

2. it is a new disease which is both sexually transmitted and eventually fatal, it therefore, provokes the moral emotional precautions common to all STDs in addition to great fear;
3. it is characterised by repeated illnesses occurring over months or years interspersed with health intervals, but with no prospect of cure.

society, including health staff, continues to stigmatize and reject patients living with AIDS. the WHO global programme on AIDS, 1990, reported that, during assistance of childbirth, the nurse midwife may be exposed to extensive amounts of blood which will necessitate obtaining gloves, aprons, soap and water. The midwife may need to wear protective glasses when blood splashes are expected. Are these material resources available in these institutions providing maternity care in Lusaka Urban Clinics? This study endeavours to establish current situations in these institutions.

Kanyama et al (1992), in multi-centre study on the risk of occupational exposure to HIV for nurse midwives and traditional attendants, observed that general hygiene measures taken in hospitals to reduce the risk of HIV infection, are insufficient and many other inadequacies stem from lack of supplies. However, even when protective equipment is available, it is often used inconsistently or improperly. This could be due to many factors such as,

lack of skills in utilizing the available resources due to long periods of working without the item/equipment and the perception of nurse midwives regarding infection transmission. This is supported by O'down, T. (1996), who states that care and empathy for patients living with AIDS, are lacking or inaccessible in many parts of the world. Even when health facilities are available, operational and attitudinal problems limit utilization and access to quality care, e.g. in East Africa, dispensaries and health centres are the first level clinical contact facilities available. These levels are virtually bypassed by people with HIV-related illnesses for various reasons, including lack of drugs, fear of disclosure of serostatus within the community and poor diagnostic knowledge of HIV related among staff.

The AIDS pandemic and other crises have placed new demands on health service provisions, particularly on nursing/-midwifery personnel which constitutes approximately 85 per cent of the health care work-force.

In light of the above mentioned reason, the government needs to plan programmes in collaboration with the regional committee for Africa and the World Health Organization, to strengthen the role of nursing/midwifery personnel in support of strategies for health for all, to develop practical guidelines for implementation of universal infection control. There is need to support nurse

midwives, to become more accountable for their thoughts and feelings, and to work for a life driven vision that will move the health care system to greater heights. Beds, E (1982) in agreement, states that, people are the most valuable organizational asset. Each person is a free agent of immense achievement, if valued respected and supported.

It is this context that there was need to research on the knowledge, attitude and practice of infection control in Lusaka Urban Clinics offering 24 hours maternity service.

Bluff, R. and Holloway, I. (1994). In their study "They know best: Women's perceptions of midwifery Care During Labour and Childbirth", established that women in labour perceived that professionals have received appropriate training and possess knowledge that clients think they themselves are lacking. This leads to the belief that professionals, such as midwives and doctors, are the experts. Yet if infection control practice is not being practiced, they could transmit infection from one patient to another. If midwives are to uphold this public esteem, they should be supported by in-service training, provision of guidelines on infection control and the necessary materials/equipment.

## **CHAPTER 3**

### **3.0 METHODOLOGY**

A descriptive study design was used to describe the knowledge, attitude and practice of midwives on infection control in maternity units in Lusaka Urban Clinics. (Park and Parck, 1989), observed that this method helps in establishing the existence of a possible causal association between a factor and disease. In this way, the magnitude of the problem regarding infection control, can be established and can be used as background data for planning, organizing and evaluating preventive services.

#### **3.1 DATA COLLECTION TECHNIQUES**

A structured interview schedule with fixed lists of Questions was used.

A check-list was also used to observe routines of midwifery care. Their behaviour was observed, recorded and used in the analysis to establish their practice.

Content analysis of the Midwives Curriculum, for both Registered midwives and Enrolled midwives, was done to establish the number of hours on the control of infection, included in the training of a midwife. Focus group discussion with Sisters-in-Charge of the six health centres and the In-charges of the Maternity Units, were done. Combining different techniques according to Achola, 1988,



maximises the quality of the data collection and reduces the chance of bias.

A Lottery Method was used to select the six clinics which were included in the study. These were as follows:-

1. Chilenje
2. Kanyama
3. Chawama
4. George
5. Chelston, and
6. Chipata.

### **3.2 SAMPLE SELECTION**

The objective was to include all the nine clinics offering maternity service in Lusaka Urban District. Due to circumstances beyond the control of the researcher, only **six clinics** were included in the study. The reasons for this were:-

1. Heavy rainfalls which were experienced in the month of January and February, which was the period for collecting data. It was observed that pregnant women tended to deliver at home, hence only a few were delivered at the clinics.
2. Most deliveries occurred at night.

3. According to the data available at both George and Chawama Clinics, the peak period for deliveries was between June and August.

A total of 42 midwives were observed while undertaking the routines of midwifery care. They were recruited as follows:-

CLINICS INCLUDED IN THE STUDY	NO. OF MIDWIVES		TOTAL	NO. SELECTED		TOTAL
	ZEM	ZRM		ZEM	ZRN	
Chilenje Clinic	17	4	21	3	2	5
Kanyama Clinic	17	5	22	6	2	8
Chawama Clinic	16	4	20	9	1	10
George Clinic	18	3	21	4	1	5
Chelston Clinic	14	6	20	5	2	7
Chipata Clinic	17	5	22	4	3	7
<b>POPULATION</b>	<b>99</b>	<b>27</b>	<b>126</b>	<b>SAMPLE 31</b>	<b>11</b>	<b>42</b>

A stratified method of selection of the midwives was used. It was important that both Enrolled and Registered Midwives were included in the Sample so that, their knowledge and practice on Infection Control could be compared. Random selection within each stratum was done using the list of the Midwives at each health centre. The Midwives were recruited upon admitting or caring for a woman in established labour; 38 - 40 weeks gestational age, with cervical dilation of 4 centimetres, with intact membranes.

Observations took place from 07.00 hours to 18.00 hours and Midwives were observed up to one hour post delivery.

The same 42 Midwives who were observed, were interviewed using a Structured Interview Schedule.

### **3.3 PILOT STUDY**

A pilot study was done at the University Teaching Hospital, to ensure that the Questions were clear, concise and consistent.

Appropriate changes were made and the interview schedule was finalised.

### **3.4 ETHICAL CONSIDERATION**

Ethical approval was obtained from the University of Zambia, School of Medicine, Research Ethics Committee.

Permission to conduct the study was obtained from the relevant authorities.

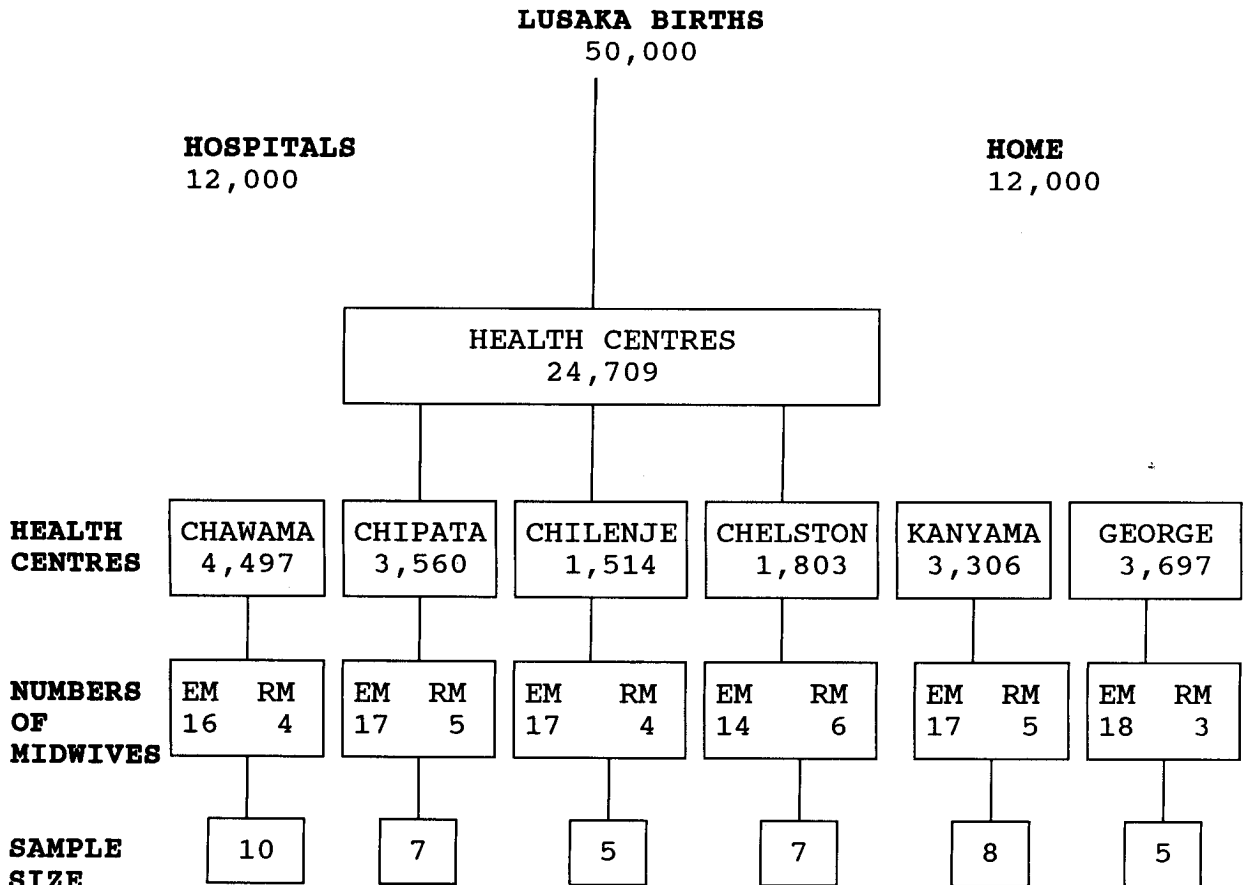
Informed Consent was obtained from clients and confidentiality was assured.

### **3.5 LIMITATIONS**

The intention was to collect data from all the nine maternity units in Lusaka Urban District. Due to circumstances beyond the control of the researcher, only six clinics were included in the study.

### 3.6 SUMMARY OF DATA COLLECTION

#### AVAILABLE DATA FOR 1996 FLOW CHART



#### CRITERIA FOR INCLUSION:

- In Established labour
- Dilating cervix - 4 cms
- Labour must progress normally

#### AREAS OF ASSESSMENT ON THE BASIC RESOURCES:

- Soap
- Water
- Gloves
- Sterilizer
- Sharp box
- Plastic Apron
- Universal Infection Control Guidelines
- PERCEPTION OF RISK

## CHAPTER 4

### 4.0 PRESENTATION OF DATA AND DATA ANALYSIS

Data were collected from 12th December 1996 - 14th February 1997. The total number of the respondents was 42. The age ranged from 29 to 49. Their mean age was 38.7 percent; the standard deviation was 5.0 percent; the majority 88.3 percent were married. 26.2 percent of the midwives were observed in Chawama while 16.7 percent were observed in Kanyama and Chelston. The remaining 14.3 percent and 11.9 percent were observed in Chipata, Chilenje and George Health Centres.

**TABLE 1**

**TYPE OF MIDWIVES**

TYPE OF MIDWIVES	FREQUENCY	PERCENTAGE
EM	31	73.8
RM	11	26.2
<b>TOTAL</b>	42	100

The above table shows that 74 percent of the respondents were Enrolled Midwives and 26 percent were Registered Midwives. This agrees with the current training pattern of having more Enrolled midwives than Registered midwives. Their mean year of service was 8.5 percent. The Senior Midwives among them qualified in 1972, while the youngest qualified in 1996. All the respondents were females.

**TABLE 2****HAND-WASHING AND THE TYPE OF MIDWIFE**

<b>HAND-WASHING</b>	<b>TYPE OF MIDWIFE</b>		<b>TOTAL</b>
	<b>EM</b>	<b>RM</b>	
All the time	21	6	26%
Rarely	10	5	15%
<b>TOTAL</b>	31	11	42%

The majority 67.7 percent of the Enrolled Midwives washed their hands, while only 54.5 percent Registered Midwives did so. 45.5 percent of the Registered Midwives did not or rarely washed their hands, and only 32 percent of the Enrolled Midwives did not wash their hands.

**TABLE 3****HAND-WASH AND YEAR OF QUALIFYING**

<b>HAND-WASH</b>	<b>BEFORE 31/12/87</b>		<b>AFTER 31/12/87</b>	
	<b>FREQUENCY</b>	<b>PERCENTAGE</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
All the time	10	47.6	16	76.2
Rarely	11	52.4	5	23.8
<b>TOTAL</b>	21	100	21	100

The tables show that 76.2 percent of respondents who qualified later than 31st December 1987, washed their hands after each contact with the patient; only 47.6 percent of those who qualified earlier than 31st December 1987, did so. The majority of those who qualified before 1987, rarely washed their hands.

Content analysis of the Enrolled Midwives and Registered Midwives' curriculum, showed that Universal Infection Control is first introduced in person and community, nursing and microbiology. It is later integrated in all subjects, making it very difficult to estimate the number of hours.

**TABLE 4****MOTIVATING FACTOR AND THE TYPE OF MIDWIFE**

<b>MOTIVATING FACTOR</b>	<b>EM</b>	<b>RM</b>	<b>TOTAL</b>
Appearance of patient	4 (12.9%)	1 (9.1%)	5
Availability of soap and water	15 (48.4%)	3 (27.3%)	18
HIV status	12 (38.7%)	7 (63.6%)	19
<b>TOTAL</b>	<b>31 (100%)</b>	<b>11 (100%)</b>	<b>42</b>

48.3 percent of the Enrolled Midwives were motivated to wash their hands by the availability of soap and water, while 63.6 percent of the Registered Midwives were motivated to wash their hands by the H.I.V. status of the patient.

**TABLE 5****AVAILABILITY OF DISINFECTANTS**

<b>AVAILABILITY OF DISINFECTANTS</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
All the time	9	21.4
Rarely	33	78.5
<b>TOTAL</b>	<b>42</b>	<b>100</b>

78.6 percent of the respondents said that disinfectants were rarely available; only 21.4 percent said it was available all the time.



TABLE 6

## AVAILABILITY OF SOAP

AVAILABILITY OF SOAP	FREQUENCY	PERCENTAGE
All the time	20	47.6
Rarely	22	52.4
<b>TOTAL</b>	42	100

52.4 percent said that availability of soap was rare in the Health Centres, but 47.6 percent said it was available all the time.

TABLE 7

## AVAILABILITY OF GLOVES

AVAILABILITY OF GLOVES	FREQUENCY	PERCENTAGE
All the time	12	28.6
Rarely	30	71.4
<b>TOTAL</b>	42	100

71.4 percent said that gloves were not available and only 28.6 percent indicated that gloves were available all the time. The researcher observed that the few pairs of gloves which were available, were locked up in the cupboards, indicating scarcity of them.

All the respondents said that they had not seen any Policy or Manual on Universal Infection Control except on the management of a patient with gonorrhoea.

Plastic aprons and goggles were not available in all the institutions.

None of the respondents had attended any workshop on Infection Control.

According to the respondents, the sterilizer and autoclave were working all the time. The researcher also observed that both the sterilizer and autoclave were in use during the period of study and that, the sterilizers were more used by midwives than the autoclaves.

**TABLE 8****CONSULTATION WHEN NOT SURE ABOUT INFECTION CONTROL PRACTICE**

<b>CONSULTATION</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Attend Workshop	6	14.3
Other/Sister/ Doctor	9	21.4
Provide service	27	64.4
<b>TOTAL</b>	<b>42</b>	<b>100</b>

64.3 percent of the Midwives said that they would provide the service as long as no one is visibly in danger.

**TABLE 9****PERCEIVED RISK IN THE WORKING ENVIRONMENT**

<b>PERCEIVED RISK</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
No	1	2.5
Yes	41	97.5
<b>TOTAL</b>	<b>42</b>	<b>100</b>

97.5 percent perceived themselves to be at risk in their working environment and felt that this perceived risk affected their work.

TABLE 10

## THE WAY IN WHICH THE PERCEIVED RISK AFFECTED THEIR WORK

WHICH WAY	FREQUENCY	PERCENTAGE
Refusing doing Episiotomy without gloves	24	60.0
Washing - re-using	4	10.0
Wearing gloves throughout a shift	5	12.5
Wearing 3 to 4 pairs of gloves	7	17.5
<b>TOTAL</b>	40	100

60.0 percent indicated that they refused to carry out an Episiotomy without gloves because doing so exposed them to HIV infection or hepatitis.

TABLE 11

## INTACT MEMBRANES

INTACT MEMBRANES PER MONTH	FREQUENCY	PERCENTAGE
1 - 4	3	7.3
5 - 9	4	9.8
10 - 14	7	17.1
15 - 19	2	4.9
20 & above	26	61.8
<b>TOTAL</b>	42	100

61.8 percent delivered women who had come with membranes which were intact which the midwife had to rupture. When there was a splash, 16.7 percent of the midwives continued conducting the delivery and only wiped themselves after the procedure, indicating that the midwives are performing Artificial rupture of membranes more than usual.

TABLE 12

## AVAILABILITY OF UNIVERSAL INFECTION CONTROL GUIDELINES

UNIVERSAL GUIDELINES	FREQUENCY	PERCENTAGE
Most times	1	2.4
Rarely	39	92.9
Sometimes	2	4.8
<b>TOTAL</b>	42	100

The table shows that the Institutions did not have universal infection control guidelines hanging on the walls or anywhere else. The researcher did not see any posters hanged anywhere in all the institutions, during the period of study.

TABLE 13

## HANDLING OF USED MATERIALS

HANDLING OF USED	FREQUENCY	PERCENTAGE
Gather materials	40	95.2
Put material	2	4.8
<b>TOTAL</b>	42	100

95.2 percent gathered the used materials in their hands to the sluice room, and only 4.8 percent put the materials in a dish before taking it to the sluice room.

65 percent of the clients who were aged between 10 and 20 years had Episiotomies done - the chi square for this group was 4.50 and P value was 0.48. Data also shows that the clients in this age group had just been married and were having their first pregnancies.

## CHAPTER 5

### 5.0 DISCUSSION

The study findings were confined only to infection practice by midwives in the six Maternity Units in Lusaka Urban District.

The method that was used to collect data in this study was observational. The time and duration of the delivery could not be predicted. Thus, the researcher had to wait until an event took place. This period of waiting made it difficult for the researcher to be present to observe midwives delivering all the women who went to deliver at the health centres in the time period.

The researcher's presence as an observer in the labour wards could have given the midwives a quality of performance which was normally absent. The midwives always gave an explanation for what they did, indicating that they were aware of the basic practice, but were proceeding differently. Treece, E and Treece, C. (1982), states that "presence of an observer creates an artificial situation". In order to minimise these biases, the researcher interacted with the midwives in their work environment, and allowed herself to be sent around, after that, the midwives seemed to be more relaxed about her presence.

The other bias which could have affected the findings was that, the researcher being a tutor and an in-charge of primary health care, might set an unrealistically high

standard of performance which could have affected the interpretations of the midwives practice. Personal interviews with the midwives were done in order to get indepth and quality information. However, content analysis of the syllabus of the Enrolled Midwives and Registered Midwives was also done and showed that Universal Infection Control was taught and integrated in most of the courses. Over 60 percent of the respondents indicated having learnt Universal Infection Control in the basic nursing programme.

#### 5.1 MAJOR FINDINGS OF THE STUDY

The major findings of the study were grouped into (1) problems of practice,

- (2) midwifery behaviour,
- (3) midwifery sensitivity, and
- (4) resource problem.

##### 5.1.1 PROBLEMS OF PRACTICE

Data collected revealed that the sterilizer, autoclave and delivery packs were available and were provided by institutions. Although the autoclave was working, the midwives were more inclined to use the boiling method of sterilizing equipment; the reason being that, midwives lacked skills in autoclave use. The autoclave is one of the two methods which will absolutely sterilize, and if midwives do not possess skills in operating it, the

supervisor should have identified that problem and planned a mechanism for all the midwives to be competent in its use.

The weakness noticed in using the boiling method was that, there was no time set for the instruments to boil. Sometimes the sterilizer would be switched off before the equipment was ready for use. In a case where the instruments were properly sterilized, they were put on unsterilized towel. The only way to solve problems like these is to ensure that each midwife realizes the role he/she has to play in Infection Control. It is unrealistic to hope for a germ-free hospital but it is possible to reduce the likelihood of infection by maintaining high standard of hygiene. Sterilizing equipment is a basic procedure which every midwife should know. Concomitant monitoring should be done when a new piece of equipment is introduced. Once the care and maintenance of equipment have been set up, on the spot checks by the supervisor can be done once in a while, to ensure that the standards are being maintained, after which disciplinary decisions should be taken against the poorly performing midwives. Michowiez, A. and Krakowiak, M. (1995) says that, in Germany, problems of sterilization, disinfection and hospital hygiene, are of the same importance as diagnostic and medical treatment. If monitored in this manner,

midwives will be accountable for what they do regarding Infection Control in health institutions. In the case where instruments were autoclaved and were put in a sterile drum, the cheatle forceps were not used to get them. Instead, midwives picked them with their hands. This can mean two things, (1) midwife's knowledge of infection control was poor, (2) carelessness due to lack of commitment to work. A midwife by virtue of her education, must be able to give the necessary supervision, care and advice to women during pregnancy, labour and the post-natal period, to conduct deliveries on her own responsibility, and to care for the newborn and the infant. This care includes preventive measures for which the midwife must be accountable. Literature has shown that hospital acquired infections are one of the most serious problems of public health. Therefore, failure to maintain the standards should render a midwife, liable to a charge of misconduct. For example, midwives after the delivery, gather the materials in their hands to the sluice room when the dish for such materials was available as shown by Table 13. The midwife's under-utilization of commonly accepted methods to prevent hospital infections, should be a concern to all, including decision makers and the hospital personnel.



### 5.1.2 MIDWIFERY BEHAVIOUR

Table 3 shows that those who qualified after 31 December 1987, practiced hand-washing more often than those who qualified before 31 December 1987. This is very surprising since hand-washing is a basic nursing practice which every midwife should be able to do. Literature which is familiar to the midwives states that, cross infection in hospital occurs mainly via hands. Hand-washing is the most effective means of prevention and yet this study has shown that hands were washed too seldom. Table 2 shows that the Enrolled Midwives washed their hands slightly more often (67.7 percent) than Registered Midwives (54.5 percent), but the difference is not significant. This situation is not favourable in view of the objectives of Infection Control which are:-

- (1) To protect the patient from infections in the environment.
- (2) To minimise cross infection between patients and from assistant to patient.
- (3) To protect the assistant (midwife).

It was also observed that, in a case where an episiotomy was performed, the midwife did not change gloves after a delivery. Instead, the Midwife proceeded to suturing of the wound using the same gloves. After settling the newly delivered woman, the Midwife proceeded to cleaning of the bed for the next patient while wearing the

same glove. The cleaning of the beds was usually done without disinfectants and yet the beds contained the blood and body fluids from the previous patient.

The midwives who are the main players in the control of infection, should be assertive and be able to make intelligent decisions regarding patient care without exposing them to hospital infections. They must be able to adapt to changing environmental situations, but maintain quality care. There should be role models within their working environment, preferably the Sister-in-Charge of the Maternity Unit. Experience has shown that, individuals are more likely to adapt good practices when these are perceived as the norms prevailing in their peer group. William, R. et al, (1960), pointed out that,

"the key to the administrative control of hospital infection is the appointment of an efficient control of Infection Officer. He/she will normally be responsible to the Hospital Control of Infection Committee".

Experience has shown that, unless infection control is the task of an individual, control of Infection Committees tend to produce well intentioned resolutions which, in practice, are often ignored. Therefore, the Midwives must become responsible and sensitive to everything that they do and be able to conserve the resources and use them to the best advantage. Midwives have the obligation to carry out duties within the limits of delegated authority.

### 5.1.3 MIDWIFE SENSITIVITY

The situation at Kanyama Health Centre was most distressing in comparison to other health centres in this study. Women in labour were made to lie on hard steel beds with no mattresses. There was no privacy either because, there were no curtains in the delivery room. Although the portable curtains were available, the Midwives made no attempt to use them. Women stared at each other as they progressed in labour. The Midwives appeared uncaring and lacked empathy. It was normal routine for them as was evidenced by their answers to certain verbal questions. For example, when they were asked whether they would like to deliver at the same institution, the majority said they preferred to deliver at the University Teaching Hospital where the conditions were better.

### 5.1.4 RESOURCE PROBLEMS

Availability of soap and water as shown in table 6, motivated Enrolled Midwives to wash their hands while over 60 percent of Registered Midwives were motivated by the HIV status of the patient. This is contrary to the usual teaching which is to treat every patient as if they were potentially infectious. In agreement Hennon, R. (1988). In his study on HIV infection in pregnant women, states that, few clinics routinely tested pregnant women. For most of the patients in this study, the V.D.R.L. test was not done. Where the V.D.R.L. test had been done, results

were not available. This attitude of washing hands on the basis of HIV status of the patients, indicates lack of knowledge of the basic principles of Hospital Infection Control. The Registered Midwives are looked upon as leaders in health centres. Therefore, there is need for them to re-learn basic principles in preventing hospital infection, and nursing procedures, if they are to lead others. Table 6 shows that, soap was rarely available all the time. The lack of soap could have affected the Enrolled Midwives who, because of their practical experience, felt that washing of hands without soap did not render their hands clean. They probably had worked during the time when all the essential materials were available, before the critical shortage of essential resources presented itself.

Generally the majority of the midwives, regardless of what cadre, did not wash their hands after conducting a delivery. This, according to W.H.O. 1988 Guidelines for Infection Control, is not acceptable and does not meet the standard of professional practice. The behaviour demands in-service training to keep the Midwives updated with information in Infection Control.

Over 70 percent of the respondents said that gloves of the usual short type size, were not available. In addition, the long gloves which reach the elbows, were never available. This situation is critical since Midwives

are expected to wear gloves of suitable quality for all direct contact with blood and body fluids. In order to overcome this crisis, women, during antenatal care, are advised to bring two pairs of gloves and a cord clamp for their delivery. Campbell, T. and Kelly, M. (1995) in their study on Women and AIDS in Zambia, stated that only 15 percent of women are employed in the formal sector compared to 85 percent of men. This could have affected the number of women who were able to buy and bring gloves to the health centres, since only 15 per cent do not have to convince anyone else before purchasing. The women who did not work, could have had problems in negotiating and convincing their spouses, on the need to give them extra money to enable them buy gloves, which are usually viewed as irrelevant or non-essential by men. The other aspect is that, there is a new partogram being implemented in UTH and Lusaka Urban clinics. According to the Midwives, in using this partogram, they need more gloves to perform vaginal examinations. This will put more pressure on women who currently expect health centres to provide the necessary resources. Some of the women brought unsterile gloves, indicating that they did not understand the importance or the need for sterile gloves. There is need, therefore, that the community must be informed through forums, which include men and women, regarding health care services, emphasizing partnership through community participation as

a means to Quality Care. Society must understand that medical issues are also Social and Economic. To reduce the anxiety of looking for gloves elsewhere, the health centres could be selling the gloves and delivery cotton wool packs. The money raised could be used to improve the labour wards.

The other aspect to consider is glove recycling. Experience has shown that gloves are expensive and are always in short supply in labour wards. Hence, recycling of gloves would improve availability of gloves and will reduce the anxiety experienced by all involved by lack of them.

Over 60 percent of the respondents had delivered 20 or more women in a month, on whom they had performed artificial rupture of membranes when there was amniotic splash. 17 percent continued conducting the delivery and wiped themselves clean after the procedure. No attempt was made to look or ask for the disinfectant since it was not available. Where it was available, the Midwives did not know the strength of the disinfectant. The point to remember about disinfectants is that, in careful hands, the best of disinfectants may be useful in a few situations. In careless or ignorant hands, the best of them may become a source of infection. To overcome this aspect as evidenced by the Midwives, there is a need to keep the Midwives updated with the type and available disinfectants. The information gap needs attention by all concerned.

The shortage of gloves, sharp box and plastic aprons, greatly affected the Infection Control practice by Midwives in the health centres. It is important to note that the prevention of Hospital Infections depend on the continuous and concerted efforts of all those who design, administer and work in hospitals.

## 5.2 PROFILE OF WOMEN IN THE STUDY

Available data show that the age of the women who went to deliver at the health centres ranged from 10 years to 32 years, those aged between 10 and 20 had just been married, and over 65 percent in this age group had episiotomies done. This agrees with Maimbolwa et al. (1996) which established that, episiotomies were done as a routine in health institutions in Zambia. Available data suggests that an episiotomy wound is easy to suture and heal than a spontaneous tear. There is debate over whether it should be a routine in practice. This procedure is an invasive one for which proper quality gloves must be worn. All the respondents indicated that they refused to perform and suture an episiotomy without gloves. This indicates that they understand the danger involved in practising without following the Universal Infection Control Guidelines. However, this understanding seems to be only to the extent to which their lives are involved, not that of their patients, as evidenced in their behaviour in the washing of hands. Their attitude towards Infection Control Guidelines

seem to be selective. The worry is the extent to which the women suffer from physical and psychological embarrassment during the period of waiting for a pair of gloves and fear the expected service will not be provided.

### 5.3 PERCEIVED RISK

Table 9 reveals that Midwives felt that they were at risk in their working environment, because of the extreme shortage of gloves, disinfectants, sharp box and plastic aprons. They indicated that they would gladly practice Infection Control if the materials needed were available. Over 60 percent of the midwives said when they were not sure about Infection Control practice they just provided the service as long as no one was visibly in danger. This attitude exposes the patients to infections which they did not present with on admission. There is need to consult supervisors and to refer to the guidelines or manual so that the patient benefits from the service provided.

### 5.4 POSSIBLE SOLUTIONS

It was observed that none of the health centres had either policies or guidelines on Infection Control. None of the respondents had ever attended a Workshop on Infection Control. Probably, only Senior members of staff attended such Workshops. Midwives need to be kept abreast with measures to control transmission of infection in their



working environment. This could be done through continued monitoring of practice by the supervisor of the Maternity Units in collaboration with the Infection Control Committee, whose functions, among others, are to monitor the hygienic practices and to advise policy makers in relation to the prevention of infection.

In-service training should be mandatory for all Midwives. The General Nursing Council should develop mechanisms to fine the employer who does not send employees for in-service training. The individuals would be liable to be deregistered if two written warnings were given for poor practical performance.

There is also a need, that those who are entrusted with the planning and budgeting for essential materials and equipment for maternity service, put Infection Control as a priority. This will lead to consumers of the service (women) and providers of the service (Midwives) to benefit from the current health care services. In order to achieve this, there is need to develop Infection Control policies and in turn, suitable and practical guidelines.

Financial Rewards (Bonus) should be given to individuals or health centres who demonstrate outstanding behaviour in Infection Control. This will serve as a motivating factor.

### 5.5 CONCLUSION

Although the sample size was too small to generalize the findings, the study revealed that the Midwives who were included in the study, did not practice Universal Infection Control. Both the patients/clients and the Midwives, were at risk of contracting infectious agents.

It is clear from the findings that the hygienic measures taken in the maternity units in the six clinics to reduce the risk of transmission of infection, are insufficient. For example, hand-washing which is a basic principle in preventing infections, was not done.

Many other inadequacies stemmed from lack of supplies. However, even when the resources were available, they were often inconsistently or incorrectly used.

There is need to hold demonstration workshops and training programmes for midwives in order for them to provide quality service through continuing education and continued monitoring.

## CHAPTER 6

### 6.0 RECOMMENDATIONS

#### 6.1 Policy makers

- 6.1.1 The Ministry of Health should institute a policy on Universal Infection Control which will provide guidance to the planners and Managers of health institutions.
- 6.1.2 The Ministry of Health, in collaboration with the relevant authorities should develop a Manual on Infection Control Practice in the country.
- 6.1.3 The Ministry of Health should strengthen the Quality Assurance Unit which monitors standards of practice.
- 6.1.4 The Ministry of Health should develop a policy on recycling of materials e.g. gloves.

#### 6.2 Health and health related managers

- 6.2.1 The District Health Boards should distribute the Infection Control Manual to all health centres.
- 6.2.2 The Lusaka District Health Board should put Universal Infection Control as a priority on the budget for the institutions.
- 6.2.3 The Lusaka District Health Board, in collaboration with the relevant authorities, should provide in-service training to all health workers in the maternity units especially those at the bedside, not only the supervisors.

- 6.2.4 The Lusaka District Health Board should offer a Bonus to the midwives who practice Infection Control.
- 6.2.5 The Lusaka District Health Board should appoint an Infection Control Focal Point person in each institution to work in collaboration with the Quality Assurance Team.
- 6.2.6 Plastic Aprons and other protective materials, should be provided for the midwives.
- 6.3 The General Nursing Council, in collaboration with the Quality Assurance Program team, should monitor the practice of Infection Control, regularly.
- 6.4 All Workshop participants in Universal Infection Control should be mandated to disseminate the information gained upon return from a Workshop.
- 6.5 Gloves, delivery packs and other necessary materials, should be sold at the health centres.
- 6.6 A study on the occupational exposure to HIV infection and any other infections detrimental to their lives, should be done in order to develop strategies to prevent the occurrence of such infections.
- 6.7 An audit on the impact of Quality Assurance Programme in the provision of health care in the health centres, should be done.

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## Appendix (2)

## LUSAKA URBAN DISTRICT HEALTH CENTRES OFFERING MATERNITY SERVICES

	No of Beds	No of Cots	No of Mid- wives		No of Deliveries per year 1995
1. Chawama Health Centre	12	16	EN 16	RM 4	4,497
2. Chelston Health Centre	14	12	14	6	1,803
3. Chilenje Health Centre	20	20	17	4	1,514
4. Chipata Health Centre	12	13	17	5	3,560
5. George Health Centre	12	12	18	3	3,697
6. Kalingalinga Health Centre	13	10	13	3	972
7. Kanyama Health Centre	20	10	14	4	3,306
8. Mtendere Health Centre	20	10	15	3	2,062
9. Matero Reference Centre	14	9	15	6	3,360
<b>TOTAL</b>	137	112	139	38	22,709

\* SOURCE: Office of the District Director, Lusaka Urban  
Civics Centre (1996).



**Appendix (3)****WORK PLAN 1996 - 1997**

	<b>AUGUST</b>	<b>SEPT</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>
Presentation of data to the Ethical Committee							
PILOT STUDY							
Collection of Data							
Data Analysis							
Binding and Dissemination of results							

## Appendix (4)

**M.P.H. THESIS PROPOSAL  
DEPARTMENT OF COMMUNITY MEDICINE  
NURSE MIDWIFE INTERVIEW SCHEDULE**

**Do not put your name. Circle the most appropriate alternative.**

IDENTIFICATION No..... DATE  
...../...../.....

1. AGE [AGE] YEARS ..... [DOB] ...../...../.....
2. SEX [SEX] 1 = MALE 2 = FEMALE
3. MARITAL STATUS [MARITAL]  
1 = MARRIED 2 = SINGLE 3 = DIVORCED 4 =  
WIDOWED
4. TYPE OF NURSE [TYPE OF NURSE]  
.....  
1 = REGISTERED MIDWIFE 2 = ENROLLED MIDWIFE
5. WHEN DID YOU QUALIFY AS A MIDWIFE [QUAL  
YEAR]...../...../.....  
INDICATE WHERE YOU LEARNT THE UNIVERSAL INFECTION  
CONTROL [PLACE] .....  
1 = BASIC TRAINING SCHOOL 2 = MIDWIFERY TRAINING  
SCHOOL  
3 = IN A WORKSHOP AT THE CLINIC 4 = NEVER HEARD
6. WERE THERE ANY DEMONSTRATIONS SHOWN ON INFECTION  
CONTROL DURING YOUR MIDWIFERY TRAINING? [DEMO]  
.....  
1 = YES 2 = NO
7. DO YOU THINK YOU WERE ADEQUATELY PREPARED TO USE  
PRINCIPLES OF UNIVERSAL INFECTION CONTROL AT THE  
MIDWIFERY SCHOOL YOU WERE TRAINING? [AD PREP]  
.....  
1 = AGREE 2 = STRONGLY AGREE 3 = DISAGREE  
4 = STRONGLY DISAGREE
8. HOW OFTEN DO YOU WASH YOUR HANDS AFTER EACH CONTACT  
WITH A PATIENT [HAND WASH] .....  
1 = RARELY 2 = SOMETIMES 3 = ALL THE TIME  
4 = MOST OF THE TIME

9. WHAT MOTIVATES YOU TO WASH YOUR HANDS [MOTIVE]  
 1 = HIV STATUS OF THE PATIENT  
 2 = APPEARANCE OF THE PATIENT  
 3 = AVAILABILITY OF WATER  
 4 = AVAILABILITY OF SOAP

**SCORE THE FOLLOWING QUESTIONS (QUESTIONS 10 - 13)**

**1= 1 TO 4; 2= 5 TO 9; 3 = 10 - 13; 4= 15 - 18; 5= 20 AND ABOVE**

10. DELIVERIES WITH INTACT MEMBRANE AT THE TIME OF  
 A D M I S S I O N [ M E M B R A N E ]  
 .....
11. DELIVERY OF A WOMAN IN LABOUR WITHOUT GLOVES  
 [GLOVE].....
12. EPISIOTOMIES DONE IN A MONTH  
 [EPISIOTOMY].....
13. EPISIOTOMY SUTURED WITHOUT GLOVES  
 [SUTURE].....
14. DO YOU PERCEIVE YOURSELF TO BE AT RISK OF CONTRACTING  
 HIV/HEPATITIS INFECTION IN YOUR WORKING ENVIRONMENT  
 [RISK]? 1 = YES 2 = NO
15. DOES YOUR PERCEIVED RISK OF CONTRACTING HIV AFFECT  
 YOUR WORK?  
 1 = YES 2 = NO  
 IF 'NO', PROCEED TO QUESTION 17  
 IF 'YES' PROCEED TO QUESTION 16
16. STATE IN WHICH WAY YOUR PERCEIVED RISK AFFECT YOUR  
 WORK  
 1 = WASHING AND RE-USING THE GLOVES  
 2 = BY WEARING THE GLOVES FROM THE TIME OF ADMISSION  
 UNTIL KNOCKING OFF TIME  
 3 = BY REFUSING TO CARRY OUT AN EPISIOTOMY WITHOUT  
 GLOVES  
 4 = BY WEARING 3 TO 4 PAIRS OF DISPOSABLE GLOVES
17. PLEASE SCORE THE AVAILABILITY OF RESOURCES FOR  
 INFECTION CONTROL IN YOUR CLINIC  
 1 = RARELY AVAILABLE  
 2 = AVAILABLE SOMETIMES  
 3 = AVAILABLE ALL THE TIME  
 4 = AVAILABLE MOST OF THE TIME

	BASIC RESOURCE	Rarely avail-able	Avail-able some-times	Avail-able all the time	Avail-able most of the time
18	Soap				
19	Water				
20	Gloves				
21	Sterilizer				
22	Sharp Box				
23	Aprons (plastics)				
24	Universal Infect-ion Control Guidelines				
25	Disinfectants				

26. ARE THERE UNIVERSAL INFECTION CONTROL GUIDELINES HANGING ON THE WALL IN YOUR CLINIC [GUIDE]?  
1 = YES                                  2 = NO
27. IF YOU ARE NOT SURE ABOUT INFECTION CONTROL PRACTICE WHEN PROVIDING THE CARE TO YOUR CLIENTS, WHO DO YOU CONSULT [CONSULT]?  
1 = WALL CHART  
2 = GUIDELINES ON UNIVERSAL CONTROL MANUAL IN THE CLINIC  
3 = PROVIDE THE SERVICE AS LONG AS NO ONE IS VISIBLY IN DANGER  
4 = ATTEND WORKSHOP ON INFECTION CONTROL
28. HOW MANY INFECTION CONTROL WORKSHOPS HAVE YOU ATTENDED IN THE PAST YEAR [WORKSHOP]?  
1 = NONE        2 = 1        3 = 2        4 = 3 AND ABOVE
29. HOW MANY WORKSHOPS ON INFECTION CONTROL HAVE BEEN HELD AT YOUR CLINIC BY THOSE WHO ATTENDED SIMILAR WORKSHOPS [WORKSHOP]?  
1 = NONE        2 - 1        3 = 2        4 = 3 AND ABOVE

- ## NURSING CURRICULUM CHECK LIST

- ## OBSERVATION CHECK LIST

## ISSUES PERTAINING TO THE PATIENT

- ## ISSUES PERTAINING TO THE INSTITUTION

- |     |                |        |         |
|-----|----------------|--------|---------|
| 9.  | Sterile Gloves | 1 = No | 2 = Yes |
| 10. | Plastic Aprons | 1 = No | 2 = Yes |
| 11. | Goggles        | 1 = No | 2 = Yes |

- |     |                                   |        |                      |
|-----|-----------------------------------|--------|----------------------|
| 12. | Delivery packs                    | 1 = No | 2 = Yes              |
| 13. | Cleaning Materials                | 1 = No | 2 = Yes              |
| 14. | Disinfectants                     | 1 = No | 2 = Yes              |
| 15. | Running Tap in each delivery room | 1 = No | 2 = Yes              |
| 16. | Provides waste disposal bins      | 1 = No | 2 = Yes<br>3 = Other |
| 17. | Provides a box for sharps         | 1 = No | 2 = Yes              |

## ISSUES PERTAINING TO THE MIDWIVES

18. Does the midwife rupture the membranes artificially?  
1 = No      2 = Yes
19. Does the midwife give any injections or intravenous infusion?  
1 = No      2 = Yes
20. Does the midwife perform an episiotomy?    1 = No  
2 = Yes
21. If yes, how does he/she control the bleeding?  
1 = By stitching the site of bleeding  
2 = By pressing on the bleeding side  
3 = Other
22. What does the midwife do when delivery of the baby followed by a blood or amniotic splash on the midwife's face?  
1 = She will wipe off the blood and continue attending to the baby.  
2 = She will hand over the baby to another midwife and quickly wash her face  
3 = Other
23. Is there a blood splash when the cord is cut?  
1 = No      2 = Yes

If yes, what does the midwife do?

.....

.....

.....

24. How does the midwife handle the blood products and equipment the women?

1 = Gathers all materials in her hands and dispose them in the sluice room

2 = Puts all materials in a dish and dispose them in the sluice

3 = Other

25. When examining the infant, is the midwife protected?

1 = No

2 = Yes

26. How many other women did the midwife supervise while observing this particular case?

.....

**Appendix (5)****BUDGET**

<b>ITEM</b>	<b>UNIT COST</b>	<b>QUALITY</b>	<b>AMOUNT</b>
<b>STATIONERY</b>			<b>K        N</b>
Photocopying paper	12,000.00	4 reams	48,000.00
Typing paper	10,000.00	4 reams	40,000.00
Printing paper	12,000.00	4 reams	48,000.00
Duplicating paper	12,000.00	4 reams	48,000.00
Blue pens	150.00	10	1,500.00
Pencils	100.00	20	2,000.00
Erasers	200.00	10	2,000.00
Secretarial services	1,000.00	120 pages	120,000.00
Photocopying Services for Research Protocol	150.00	150x20x15	45,000.00
Photocopying for final report	150.00	150x120x10	180,000.00
Binding of documents	10,000	10,000x10 copies	100,000.00
Consultancy Services	50,000	50 x 1	50,000.00
Data Entry/ Analysis	200	200 x 1	200,000.00
Lunch Allowance for Research Assistants	10,000 per day	10 daysx4 x10,000	400,000.00
Lunch Allowance for Principal Researcher	10,000 per day	10 daysx4 x10,000	400,000.00
Travel to sites for data collection	7,000	10daysx7,000 x 2 trips	140,000.00
<b>TOTAL</b>			<b>1,824,500.00</b>
Contingency	10% of	182	1,824,500.00
<b>T O T A L</b>			<b>2,006,950.00</b>



**INFORMED CONSENT:**

Dear Participant,

Please read through the following statements and sign if you wish to participate.

1. The objective of the study is to determine the extent to which midwives working in Labour Wards understand accept and practice according to infection control guidelines in their working environment.
2. Participation in this study is voluntary hence you are free to withdraw if you want.
3. Benefits to the participants are likely to be long-term policy makers upon receiving recommendations from this study, infection control will be put on the priority list. These may be short-term benefits to the infect 'control in your mind'.
4. There will be no additional cost to the midwife resulting from your participation.
5. All information given during the study will be highly confidential.
6. Further information: This study is being conducted by a Master of Public Health student at the University of Zambia in the department of Community Medicine.

I ..... hereby called participant, understand the objectives of this study and that I will be observed and interviewed while performing my duty.

I hereby consent to participate.

Dated this:..... day of ..... 1996.

SIGNED:.....  
(Participant)

SIGNED:.....  
(Researcher)

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SIGNED:.....  
(Participant)

SIGNED:.....  
(Researcher)

# THE UNIVERSITY OF ZAMBIA

## SCHOOL OF MEDICINE

tel: 252641

UTH) 254824 (Pre-Clinical) Ridgeway Campus

na: UNZA, LUSAKA

INZALU ZA 44370

GO-1-250753

Department of Paediatrics/Child Health

P.O. Box 60110  
Lusaka, Zambia

Your Ref:

Our Ref:

21st NOVEMBER 1996

Ms Miriam libetwa  
Dept of Community Medicine  
UTH LUSAKA

Dear Ms Libetwa

re: KNOWLEDGE ATTITUDE, AND PRACTICE OF MIDWIVES ON INFECTION  
CONTROL IN MATERNITY UNITS IN LUSAKA CLINICS

I would like to inform you that your research proposal was  
approved by the Research Ethics Committee.

Yours sincerely



E M Chomba

SECRETARY, RESEARCH ETHICS COMMITTEE

SCHOOL OF  
Dept. of Community Medicine  
P O Box 50110  
LUSAKA.

November 5, 1996

The District Director of Health  
Lusaka Urban  
P O Box 32379  
LUSAKA.

ufs: Head  
Department of Community Medicine  
P O Box 50110  
LUSAKA.

W. B. M. M. M.

Dear Sir:

RE: PERMISSION TO CARRY OUT A STUDY ON THE KNOWLEDGE ATTITUDE,  
AND PRACTICE OF MIDWIVES ON INFECTION CONTROL IN MATERNITY  
UNITS IN LUSAKA URBAN CLINICS.

I am a student in the Masters of Public Health programme in the  
above mentioned Institution. As part of requirement to complete  
training I have to carry out a research study.

My research study is on the Knowledge, attitude and practice of  
midwives on infection control in Maternity Units in Lusaka Urban  
Clinics.

The study will involve observing and interviewing midwives as  
they perform their duties.

The Research proposal has already been approved by the UTH  
Ethical Committee.

I will be most grateful if my request will be favourably  
considered.

Yours Faithfully

Miriam C. Libetwa  
Miriam C Libetwa  
MPH STUDENT

Box 30789

Lusaka

252480 (Temporary)

EX.....



REPUBLIC OF ZAMBIA

**MINISTRY OF HEALTH****LUSAKA URBAN DISTRICT HEALTH MANAGEMENT TEAM**

November 13th, 1996

Miriam C Libetwa  
MPH Student  
School of Medicine  
Department of Community Medicine  
P O Box 50110  
LUSAKA

Re: PERMISSION TO CARRY OUT A STUDY ON THE KNOWLEDGE  
ATTITUDE AND PRACTICE OF MIDWIVES ON INFECTION  
CONTROL IN MATERNITY UNITS IN LUSAKA URBAN CLINICS

Reference your letter on the above study dated 5th November 1996.

I have no objection for you to carry out the study in the Health Centres in Lusaka Urban District.

The Health Centre In-Charges are by this letter requested to assist you in every way.

Please can the District Health Management Team have a copy of your findings.

L Mungala (Mrs)  
DEPUTY DIRECTOR OF ADMINISTRATION  
for/DISTRICT DIRECTOR OF HEALTH