TITLE

AN ASSESSMENT OF QUALITY OF FAMILY PLANNING SERVICES PROVIDED BY THE DEFENCE FORCE MEDICAL SERVICES.

- MAINA SOKO HOSPITAL

- ARAKAN CAMP HOSPITAL

BY
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THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF POST BASIC NURSING

A study to assess the quality of family Planning services provided by the Defence Force Medical Services

- Maina Soko Hospital
- Arakan Camp Hospital

By

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LIST OF ABBREVIATIONS

GNC = General Nursing council

GRZ = Government of the Republic of Zambia

MCH = Maternal and child Health

FP = Family Planning

PPAZ = Planned Parenthood Association of Zambia

USA = United States of America

ZNS = Zambia National Service

DECLARATION: (III)

I hereby declare that this work presented for the Degree of Bachelor of Science in Nursing has not been presented either wholly or in part for any other degree and is not being currently submitted for any other degree.

Signed.....

Approved... M. Idele ... Jan. 1997

STATEMENT

I hereby certify that this Study is entirely the result of my own independent investigation. The various sources to which I am indebted are clearly indicated in the paper and in the reference.

Signed----------

DEDICATION:

This study is dedicated to closet friend and father to my children, Chresta, without whose unfailing love and support this achievement would not have been possible.

To the three beautiful children, Claire, Pule and Chawanangwa who were deprived of maternal love while I was studying.

To my late father Mr. L. Kapungulya who continues to be an inspiration in all my life's endeavours - may his soul rest in peace.

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ABSTRACT

The aim of the study was to assess the quality of family planning services provided by Defence Forces Medical Services in Lusaka. The study assessed the process of care at Maina Soko Military Hospital and Arakan Camp Hospital F. P. Clinics.

Data was collected from a sample of 51. (II) service providers and 40 client provider interactions.

Data tools used were the self administered questionnaire for the service providers, as well as non-participant observation of 40 client provider interactions.

Results of the study showed that the quality of the F.P services provided were better in the one clinic as compared to the other clinic. There was a general lack of appropriately trained manpower and this to a large extent affected the technical quality of the services provided adversely. In addition the limited choice of F.P. devices affected the quality of service in that the consumer has limited choice of method. Lack of privacy in the one clinic also influenced negatively by the inadequacy of space.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND INFORMATION

Zambia is located in the Sub-Sahara region. It has an area of 752,000 sq km and population of 8.09 million with a population increase of 3.2% 42% of the population is urban whilst 58% is rural. The average population density is 10.8 per sq km. Children under 15 years and women of child-bearing age (15-49) constitute close to 75% of the total population. The crude birth rate is 49.7/1000. Crude death rate is 13.2/1000, infant mortality rate is 123/1000 live births. The life expectancy for males is 44.5 years and females 47.5 (CSO 1995).

The country has fairly good health facilities offering both curative and preventive services. Most of these health facilities are found in urban areas.

The close inter-relationship between economic development and health has been evidenced by the gradual deterioration of the health facilities. Of late there have been a lot of complaints from the general public about the quality of care they have been receiving from the health institutions. The health workers too, more especially Ministry of Health officials have observed the deterioration in the quality of care in health institutions. This was evident in the study conducted by Euro Health Group in Lusaka in 199 when 9190 of patients interviewed stated that they were

satisfied with care received from private clinics and 77% of those attending Government clinics said they were satisfied with services received (Euro Health Group, 1993). The Government decided to implement the Health Reforms with a view to overhaul the health system in order to improve quality of care. The Government's commitment to the objectives of attaining health for all means not only improving the accessibility of health services and reducing mortality and morbidity, but also improving the quality of life for all Zambians (ZDHS 1992).

Zambia has a mixed type of economy. The economy consists mainly of Mining and Agriculture. Copper mining accounted for 95% of export earnings and contributed 45% of Government revenue. The drastic decline in world Copper prices in the years 1974 and 1975, rising prices of Copper production and the slow pace of industrialization with heavy dependence on imports have driven the economy in to a very difficult situation. In order to revamp the economy the MMD (Movement for Multi-party Democracy) Government has introduced the Structural Adjustment Programme with emphasis on the free market economy.

There are 73 officially recognised ethno- linguistic groups in Zambia. Most people are Christians (ZDHS 1992).

For the first decade and a half after Independence, Zambia did not view her rapid population growth as a developmental problem (ZDHS 1992). At the time the rural-urban migration was the major source of concern. After the 1980 census the population shot up to 5.7 million from 2.4 in 1963 out

weighing the economic growth of the country. In the early 1980s, the Government thus gave the mandate to the National Commission for Development Planning (UNDP) to initiate a draft population policy aimed at achieving a growth rate of population consistent with the growth of the economy. The population policy was finally launched by the President in May 1989. The ultimate goal of the policy is to improve the standard of living and quality of life of all Zambians.

Zambia's population Growth rate has however been increasing steadily over the years. The annual population growth rate was reported to have been 3.1% from 1969 - 1980, and 3.2% from 1980-1990 (ZDHS, 1992). Strategies for implementing the population policy included formulating and implementing fertility regulation and family planning programs within the context of the nation's health care and related systems (ZDHS, 1992). This implies that there was a need for intensification of quality family planning services and other activities aimed at fertility control.

Inspite of all these measures taken by Government, Zambia's fertility rate has remained high at the rate of 6.5 in 1992. Lusaka province has a population growth rate of 5.6% and a population densify of 55 people per sq km (ZDHS, 1992). Lusaka has several health centres and facilities offering family planning services. amongst these are services provided by the

Defence Forces Medical Services. They provide services for military personnel and their spouses as well as non military personnel. Maina Soko Military Hospital is a 60 bed military referral hospital providing specialized services. It caters for clients referred from the five Zambian Air Force (ZAF), four Zambian Army and one National Service Units in Lusaka as well as all other units located in Zambia. According to a study conducted by the Planned Parenthood Association of Zambia in 1986 Arakan Clinic recorded 180 acceptors (PPAZ, 1986).

The hospital records obtaining show that in 1994, 782 old acceptors and 282 new clients were attended to. These figures show that a significant number of clients attend the clinic. The records for Maina soko Clinic on the other hand have not been consistent, as at December, 1994. 30 old acceptors and 5 new clients were attended to in the clinic. The two hospitals under study are among the many health institutions providing family planning services in the capital city's urban area. As such they should provide services that have a capacity of helping to slow down the population growth rate.

According to the 1980 census analytical report Lusaka Province was estimated to have 182,000 females in the child - bearing age (15-44 yrs) (PPAZ, 1986). This is a significant number of women who would account for considerable clinic attendance.

Maina Soko and Arakan Clinics offer a variety of

Family Planning Methods namely oral contraceptives and male condoms at Arakan Hospital

Of the two hospitals Maina Soko offers a wider choice of methods and services: counselling, services permanent sterilization (tubal ligation & vasectomy), hormonal methods such as oral contraceptives and norplant, barrier methods - condoms and natural scientific family planning. Despite the availability of these free services the clinics are under utilized.

As was reported by the ZDHS (1992) in 1992 nine out of every ten Zambian women aged 15 - 49 knew at least one method of family planning Only 11% reported that they did not know any method of family planning (ZDHS, 1992).

The ZDHS further reports that in Lusaka at least 94.5% of women in the child bearing age know a family planning method. Despite the high knowledge only 15% of women were recorded to be using modern contraceptive methods in 1992.

2 STATEMENT OF THE PROBLEM

Zambia is currently faced with a rapid population growth rate which if not put under control will continue to aggravate the current problems recurred to over population. Between 1980-90 the population growth rate was reported to be 3.2% per annum. The population growth rate for Lusaka province is the highest in Zambia. In 1990 it was 5.6% as compared to 2.2 - 2.3% in Luapula, Western and Eastern Provinces (ZDHS, 1992). The population density is

correspondingly high. It increased from 5.3 people per sq km in 1969 to 7.5 in 1980 and 10.4 per sq km in 1990. The average density ranged from 55 people per sq km in Lusaka province and 50 people per sq km in copperbelt province to 5 and 3 people per sq km in Western and Northern Western provinces respectively (ZDHS), 1992).

The Hospitals under study are situated in Lusaka. In view of the highlighted population growth rate these health institutions together with others are faced with a task of helping to reduce the rapid population growth. In their efforts to reduce the rapid population growth the hospitals have the responsibility of providing quality family planning services. Services has shown that children born too close to a previous birth are at risk of dying. This risk is particularly high when the interval is less than 24 months. (ZDHS, 1992). Since almost 1 in 5 births occurs after an interval of less than 24 months the levels of child related illnesses and deaths are significantly high. Presently the infant mortality rate is 123/1000/(CSO, 1995). The Ministry of health further states that births which are too close or too many or to women who are too young or too old are responsible for one third of infant death of many children and women in Zambia.

The age of women at first birth has important demographic implications. Early marriage and early child bearing is reported to be a major determinant of

large family size and rapid population growth. This is particularly so in countries whose family planning is not widely used (ZDHS, 1992). The DHS further states that in Zambia more than a40% of women aged 25-49 years had their first child by the age of 18 years, and 70% by the age of 20 years. These figures signify the need for young women to practice family planning. Family Planning is beneficial to a large cross-section of population as is generally ensures better quality of life. Family planning brings more benefits to more people at less cost than any other technology (Nyambe, 1994).

The defence Forces Medical Services have been providing family planning services for a considerable period of time. Despite the presence of the free services by the Defence Forces and other health institutions under utilization of these services is apparent. It was for this reason coupled with a lack of previous assessment of the services that the researcher decided to assess the quality of Family Planning Services provided by Defence Forces Medical Services.

The choice of the hospitals was made because the researcher is a member of staff of the Ministry of defence, on secondment to the Defence Forces Medical Services. The results obtained from the assessment may be utilized for a project proposal aimed at improving the services provided. During a preliminary

survey the researcher observed that despite the fact that services are free they are under utilized. Figures obtained from 1991-1994 attendance registers at arakan camp MCH clinic showed a decline in the client attendance.

Year	Old client	New Clients
1991	145	514
1992	354	326
1993	675	262
1994	784	282

Table Showing Annual Attendance for Arakan Family Planning Clinic.

Maina soko on the other hand had an average of 10 old clients and 2 new clients per week. These figures show a significantly low client attendance, when the relatively large catchment are is considered. It was further observed that some of the potential clients attend clinics elsewhere. Bearing in mind the low utilization the researcher carried out an assessment of the services. The aim of the study was to assess the quality of the family planning services provided by the Defence Forces Medical Services at Maina Soko Military Hospital and Arakan Camp Hospital.

CHAPTER TWO

Literature Review

Quality of care is a broad concept that relates to the excellence or merit of a thing or activity and in this case it refers specifically to excellence or merits of family planning services.

The concept of quality of care is relatively new to the health care delivery system in the developing world where emphasis all along was placed on the expansion of services in order to provide improved access (World Bank, 1993). The current restructuring of health services taking place in most developing countries has led to the need to strengthen the existing services and within this process the need to focus on quality of care provided.

A review of literature has shown that no research has been conducted to assess the quality of family planning services provided by Defence Forces Medical Services in Zambia.

Assessment of the quality of family planning services is important as it determines the impact and effectiveness of the family planning services provided.

It also serves as a pointer for improvement where short comings are observed. In a study to assess the quality of family planning services provided in

Nairobi in 1994, various aspects of the provision of family planning services were observed. The aim of the study was to identify the strengths and weaknesses of the family-planning services. Logistical support, information education and communication, record keeping and the quality of services provided in family planning agencies were examined. The results showed that record keeping and contraceptive supplies were satisfactory. Substantial problems were mainly found in the area of training and supervision of staff, equipment and supplies as well as same aspects of client care (Mensh, 1994). The preliminary analysis of the study results suggested that there was a positive co-relation between quality of care and client attendance. The higher the quality of care was the higher the client attendance.

The variety of contraceptive methods provided also proved significant in influencing the client attendance. The wider the choice or variety of methods, the more the clients they had.

According to the study conducted by the Planned Parenthood Association of Zambia (PPAZ) in 1989, the most important reasons given for high drop out rate in family planning contraceptive use were rumours about possible side effects, longer waiting time, migration and failure of the clinics to supply the preferred brand (PPAZ, 1989).

Quality of care studies usually identify and assess

issues by looking at 3 main areas, the structure of care, the process of care and the outcome of care (World Bank, 1993). This study of quality of F.P. services provided by defence forces medical services focuses on the process of care. In 1992 the World Bank conducted a study on the quality of care in health services at the request of the Zambian Government. During the study, the structure, process and outcome of care were examined. Results of the study showed that the rural areas lacked many basic structural elements of a PHC system, particularly qualified staff, transport a regular supply of drugs, basic supplies and equipment. These deficiencies have affected the quality of care negatively. This finding was expressed by the staff, beneficiaries of care as well as patient exit polls, In contrast to this finding Lusaka Urban had the basic structural elements for PHC. The major quality of care issue was the lack of drugs. Results of the study further show that process indicators relating to patient Management are negatively influenced by the poor rural structural resource base. Outcome indicators measured in terms of beneficiary perceptions of satisfaction with GRZ health services, showed a major dissatisfaction related to drug scarcities, staffing inadequacies and other logistics shortages (World Bank, 1992). After the World Bank study on quality of health service, it was recomended that, it is important in assessing

quality to realize that it has to be assessed both from the consumer as well as the care providers' point of view.

Several studies have been conducted world wide in relation to client satisfaction as a measure of quality nursing care. However, because nursing care is complicated, consumers are not in a position to judge the quality of nursing care with the same accuracy as that of the health care providers. Health professionals often oppose and be little the role of patient satisfaction in the measurement of quality of care (Mutwale, 1993).

But while they may not be as competent as the providers in assessing the technical quality of care, consumers are the best judges in many areas of care. Areas such as the process of care and the surroundings in which care is given (Erickson, 1987). The client cannot however be the final authority on quality.

According to results from Gill Taylor's study on the patient satisfaction as a measure of quality care of the elderly patient. Out of a sample of 140 patients studied, the results revealed that the patients were more concerned with interpersonal relationships and competence. This let to the conclusion that the patient's opinions were more emotional and subjective (O'Leary, 1992).

after the study on the relations between patient satisfaction and quality of nursing care, Lillian Erickson concluded that patient satisfaction should

not be used as the sole evaluation measurement of quality of nursing care (Erickson, 1987). She further concluded that most scholars often do not want to study patient satisfaction because it is said to be a pnemenum with little variation. What this entails is that most of the clients have been reported to be happy with care because of their dependency on the care agent.

However, according to Vuori in his study titled, Patient Satisfaction - does it matter? Conducted in the USA in 1991, patients are partners in care and that they are the best judges in the non-technical areas of care. Vuori recommends that patient's views on quality care should be taken into consideration since patients as recipients of care are the best judges of the care they receive (Vuori, 1991).

The shortage of resources has resulted in health care providers being faced with problems in providing quality care. In a study to evaluate the MCH/FP services in Lusaka Urban, Mutwale found that there was a general shortage of manpower. She concluded that the shortage manpower and heavy commitment has led to the emphasis on getting the work done without reference to quality of care (Mutwale, 1993).

Efforts are however being made to ensure that family planning training is strengthened in the sub-saharan region. In Botswana, the curriculum for National

Health Institute was revised following the introduction of integrated health services. The aim of this was to produce health workers who are able to provide comprehensive and integrated health services with knowledge and confidence. Besides this measure the Ministry of health provides regular integrated MCH/FP orientation for all new employee's (Manysneng, 1990).

Zambia's Ministry of Health has in collaboration with the General Nursing Council (GNC) incorporated in the nursing and Midwifery curricular aspects of family planning at all levels (GNC).

CHAPTER THREE

Objectives

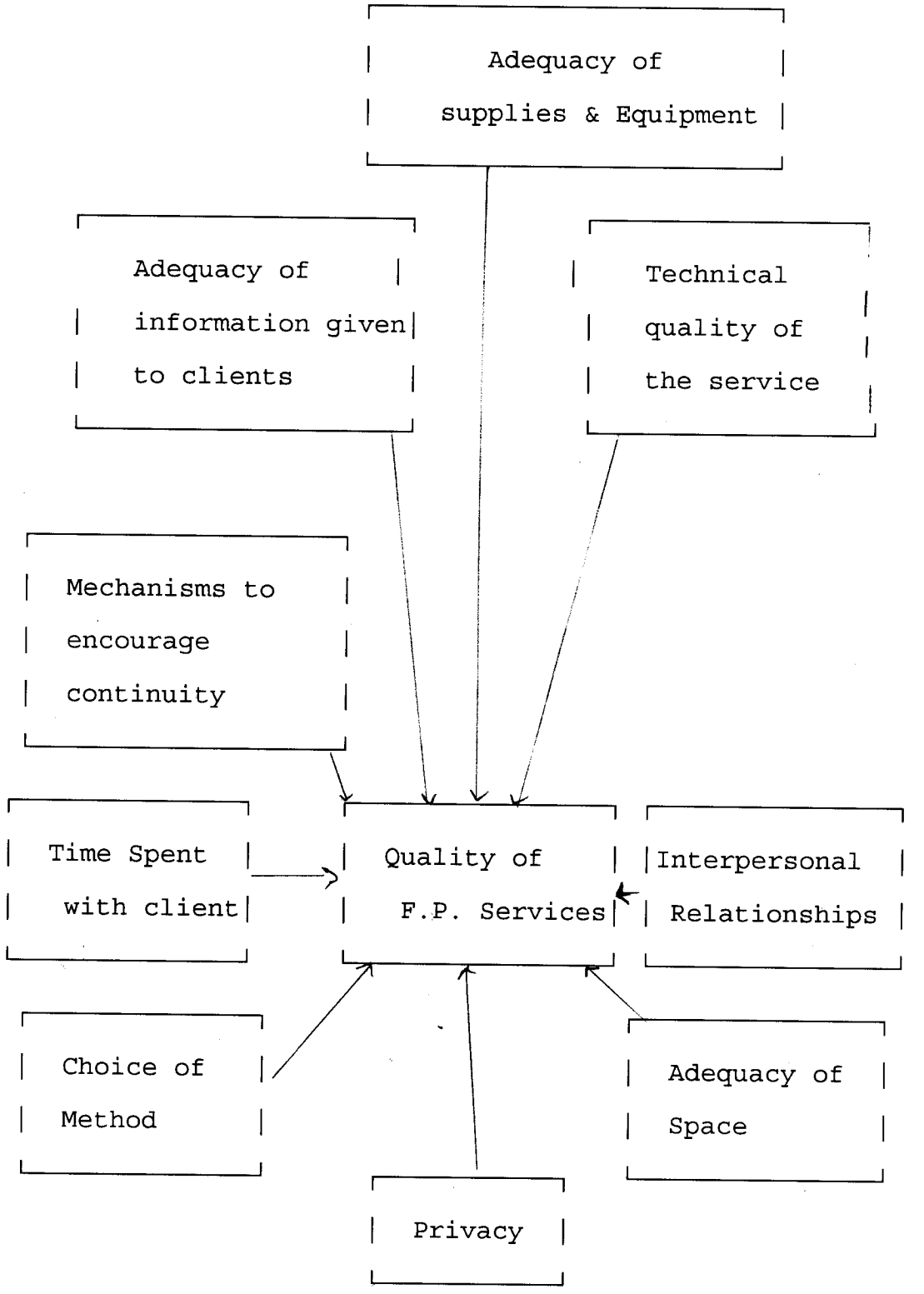
General Objectives

The study was conducted to assess the quality of family planning services provided by Defence Forces Medical Services at Maina Soko Military Hospital and Arakan Camp Hospital in Lusaka.

Specific Objectives

1. To assess the adequacy of supplies in the clinics.
2. To establish the technical quality of the services provided to the clients.
3. To assess the adequacy of information given to clients.
4. To describe the interpersonal relationships between the service providers and the clients.
5. To establish availability of the appropriate choice of method.
6. To establish the length of time each client spends with the service provider.
7. To determine the adequacy of space in each clinic
8. To assess the amount of privacy afforded to clients during client-provider interactions.
9. To identify mechanisms to encourage continuity of service.
10. To identify the constraints faced by the service providers of family planning services.
11. To make recommendations for the improvement of the quality of the family planning services provided by the two clinics under study.

THE VARIABLE



Dependent variable

Quality of Family Planning Services.

INDEPENDENT VARIABLES

1. Adequacy of supplies.
72. Adequacy of information given to clients.
3. Technical competence of the staff.
4. Mechanisms to encourage continuity.
5. Time spent with the client.
6. Appropriate choice of method.
7. Interpersonal relationships.
8. Adequacy of space.
9. Privacy.

INDICATORS AND CUT-OFF POINTS

Dependent Variables	Indicators
1. Quality of F.P. services	(i) Good: All or almost all aspects of quality under assessment are met or almost met completely.
	(ii) Fair At least half of the aspects of quality being measured are met.
	(iii) Poor At least 3/4 of the aspects of quality under measurement are not met.

Independent variables	Indicators
1. Adequacy of supplies and Equipment	Adequate The clinic has all the family planning devices required for smooth runnig of the clinic. The clinic has equipment like Blood pressure

		machine, cauch, scale, speculums, sterilizer or autoclave, spot light, a sink and basins for hand washing, trolleys and adequate sterile receivers and gallipots, cotton wool drums to carry out procedures correctly and efficiently. Inadequate There is a shortage of family planning devices as well as not enough equipment to carry out the clinic activities efficiently.
2.	Information given to the clients	Adequate The clients is given all or almost all the relevant information for safe family -

		planning practice. Inadequate The client is given less than 1/2 of the information required for safe family planning practice.
3.	Mechanisms to encourage continuity	Good At the end of the interaction is given the date of next review. Poor The client is not given the date of next review.
4.	Inter-personal Relationships	Good The client is welcomed, provided with clear answers to questions and thanked by the service provider. Poor The client is not welcomed or thanked at the end of the interaction. Client

		not provided with clear answers by the service provider.
5.	Time spent with the client	<u>Adequate</u> The period is long enough for the care given to meet the client needs for F.P. services. <u>Inadequate</u> The period is not long enough for the care given to meet the client's needs for F.P. services.
6.	Choice of method	<u>Wide</u> The client has a wide range of methods to choose from. <u>Not Wide</u> The client has limited range of methods to choose from.
7.	Adequacy of space	<u>Adequate</u>

There is enough room in the clinic to enable the clients to wait outside the consultation room.

Inadequate

There is not enough room and some of the clients wait inside the consultation room whilst their others are being attended to.

8. Privacy

Adequate

- Single enclosed room available for counselling history taking and examination of the client.
- Use of curtains to ensure that privacy is maintained.
- No other staff or clients present in the room whilst the client is being attended to.

Inadequate

- A large open room, with other clients and staff present during history taking,counselling or examination of the client.
- Curtains not used at all or are inappropriately used.

Operational Definitions

Service provicer; Any health worker tha is actively involved in the delivery of family planning services in the two clinics under study.

CHAPTER FOUR

METHODOLOGY

Research Design:

For the purpose of this study a qualitative non interventional descriptive research design was used. The study invloved the systematic collection and presentation of data in order to give a clear picture as to the quality of family planning services. The study sought to measure the quality of family planning services bearing in mind the process of care.

Research Setting

The study was conducted in two Military Hospital Units located in Lusaka Urban. These Hospitals are Maina Soko and Arakan Camp Hospital.

The health institutions were selected because of their proximity to the institution of learning where the researcher is based.

(i) Maina soko Hospital

It is a 60 bedded referral hospital located in woodlands residential area. It's a Ministry of Defence Unit catering for senior civilian personnel from the Ministry, as well as Military personnel and their immediate families. currently the hospital offers services to non Military members of the public on fee paying basis. The people served by the hospital are both from high and low income groups.

The services provided by the hospital include preventive curative and specialist services. The specialist services include obstetrics, gynaecology ENT. ophthalmology, dental surgery, orthopaedics and special investigations.

ARAKAN CAMP HOSPITAL

It is a Zambia army camp hospital. It is situated in the Arakan Barracks located along Independence Avenue opposite State House. It's a 32 bedded hospital. The hospital provides both curative and preventive services of a non specialist nature. The hospital is especially intended to cater for military personnel working at the 2nd battalion Zambia Regiment (2ZR) and army Headquarters. The camp has a population of at least 3,000 people both resident and non resident. The hospital extends free services to non military personnel resident in areas near the camp. These areas are mainly chilenje, Kabwata, state house, part of woodlands as well as Libala. For specialist services patients are referred to Maina soko and the UTH. All specimens and X-ray requests are sent to Maina Soko hospital since the hospital does not have laboratory or X-ray department. The hospital has 16 staff and the Garrison Medical Officer is incharge of the medical services.

Study population

The study population comprised the client's attending the clinic, as well as all the Family Planning Service providers who provide services at both clinics.

Sample Size

The sample consisted of 40 clients (20) from each clinic) and 11 health workers.

SAMPLING METHOD

In order to get the required sample size in view of the limited time, a convenient sample was used to select 40 clients from 20 from each clinic. The clients consisted of all the family planning clients attending the clinic during data collection.

In view of the small number of service providers working in the clinics all the F.P. staff were selected and they added up to 11. Therefore the total sample was n=51 11 service providers and 40 clients.

Data Collection

Data was collected in 5 days from 9th October, 1995 to 13th October, 1995. Data was collected during working hours. The researcher distributed all the questionnaires to the 11 family planning staff at Maina Soko and in Arakan Camp Hospital.

Data Collection Techniques

1. Self Administered Questionnaire

These were given to the care providers because they are literate and were be able to answer the questions correctly. The questionnaires consisted of both open-ended and closed ended questions. The advantage of the questionnaires is that they are less time consuming and give the respondent the liberty to answer without feeling on the spot.

2. Non-participant observation

This technique involved systematic selecting, watching and recording of the client provider interactions. This was done in order to facilitate the researcher to collect information not collected by the use of the questionnaire, on the process of care. The disadvantage of this technique is that the staff and clients under observation may behave differently and biased results may be obtained. The other disadvantage is that ethnical issues regarding privacy (especially during examination) may raise. Observer bias may occur if the researcher does not use the observation guide.

Pilot Study

This was conducted at Zambia National Service Headquarters Clinic. The study was conducted on four family planning clients and two staff at the clinic. The researcher was enabled to identify ambiguity and check for clarity in the testing instruments.

Ethnical Considerations

The researcher obtained written permission from the Director-General of Medical Services to carry out the study in the two health institutions. The respondents gave informed consent and had the right to refuse to take part in the research. The researcher requested for permission from the clients before observing the each examination.

Limitations of the Study

A. Time

The researcher was subjected to limited time to carry out a detailed research due to other academic pressures.

B. Financial

Owing to limited financial resources a small sample size had to be used. The study population was also limited to the two institutions. This may affect the generalization of research findings.

CHAPTER FIVE

Analysis and Presentation of Data

5.1 Data Analysis

The purpose of the study was to assess the quality of family planning service provided by Defence Forces Medical Services at Maina Soko Military Hospital and Arakan Camp Hospital Family Planning Clinics in Lusaka.

The results presented were obtained from eleven health care providers currently providing family planning services in the two Hospitals. The other set of results was obtained through the non-participant observation of 40 provider-non-participant observation of 40 provider-client interactions: each of the 40 interactions was observed from the time the client entered the service provider's room to the time the client left. The observations were made using a structured observation guide. Data collected was editted for completeness and acuracy. Analsis was done by computer using the Epi-Info programme. The data small be presented inform of tables as well as discriptive data. The researcher found tables suitable because they summarize results in a simple and meaningful way making it easier for the reader to understand.

5 2 PRESENTANTION OF DATA

Information About the Providers

TABLE 1 Sex of the Providers in both clinics

N=11

Sex of Provider	No	Percentage
Female	7	63.6%
Male	4	36.4%
Total.	11	100%

The majority of service providers are female .

TABLE 11 AGE OF PROVIDERS

N=11

AGE GROUP	NO	PERCENTAGE
21 - 25	0	0%
24- 30	0	0%
31 - 35	2	18.2%
Above 35	9	81.8%
Total	11	100%

The age range of the providers was from 31-35 with the majority 9 (81%) aged above 35 years

TABLE III

YEARS OF PRACTICE OF THE PROVIDERS POST-QUALIFYING

N=11

YEARS OF PRACTICE	NO	PERCENTAGE
14	1	9.1%
13	1	9.1%
11	2	18.1%
7	1	9.1%
6	1	9.1%
4	1	9.1%
3	2	18.2%
2	2	18 2%
Total	11	100%

The years of practice post qualififying ranged from 2-14 years. The majority of staff (18.2%) had served for 2,3 and 11 years respectively.

TABLE IV

YEARS THE PROVIDERS HAD WORKED IN THE PRESENT CLINIC

N= 11

YEARS WORKED IN CLINIC	NO	PERCENTAGE
1 - 3	5	45.5%
4 - 6	5	45.5%
7 years and above	1	9.1%
	11	100 %

Nearly half (45.5%) of the providers had served in the clinic for 1-3 years whilst the other half (45.5%) had served for 4-6 years.

TABLE V SERVICE PROVIDERS' ATTENDANCE AT SEMINARS OR WORKSHOPS ON F.P

N=11

YEAR	NO	PERCENTAGE
1989	1	9.1%
1991	1	9.1%
1992	1	9.1%
1994	1	9.1%
1995	1	9.1%
Never	6	54.5%
TOTAL	11	100%

The majority of staff 6 (54.5%) stated that they had never attended a seminar or workshop on F.P

TABLE VI SERVICE PROVIDERS' PERCEPTION OF WHAT CHARACTERIZES GOOD QUALITY F.P CARE

N=11

PERCEPTIONS OF GOOD QUALITY F.P. SERVICE	NO	PERCENTAGE
Ttrained staff	5	45.5%
Examination and Privacy	2	18.2%
Adequate supplies	1	9.1%
No response	3	27.3%
TOTAL	11	100%

The majority os service providers (45.5%) indicated that any trained staff characterises good quality F.P sevices.

TABLE VII ADEQUACY OF KNOWLEDGE OF THE SERVICE PROVIDERS ABOUT F.P SERVICE

N=11

KNOWLEDGE OF F.P	NO	PERCENTAGE
Adequate	6	54.5%
Inadequate	5	45.5%
Total	11	100%

The majority of providers stated that they had adequate knowledge in F.P

INFORMATION ABOUT THE SERVICE

TABLE IIV: Regularity of F. P. Supplies

N=11

Regularly of Supplies	No.	Percentage
Regular Irregular	2 9	18.2% 81.8%
Total	11	100%

The majority of providers 9 (81.8) said they had irregular supplies

TABLE IX: Time Spent with the Client by the Provider

N=11

Time Spent with Client	No.	Percentage
10-20 minutes 20-30 minutes Below 10 minutes	1 1 9	9.1% 9.1% 81.8%
Total	11	100%

The majority of providers 9 (81.8%) stated that they spend less than 10 minutes with each client.

TABLE X: Adequacy of time spent with the client as perceived by the provider

N=11

Adequacy of time spent with each Client	No	Percentage
Adequate Inadequate	8 3	72.7% 27.3%
Total	11	100%

The majority of providers 8 (72.7%) said that the time they spent with each Client is adequate

TABLE XI: Various F. P. methods offered by the clinics

N=11

Method	No.	Percentage
Male Condom	5	45.5%
Oral contraceptives	3	27.3%
Loop	1	9.1%
Sampoons	1	9.1%
Natural FP	1	9.1%
Total	11	100%

The majority 5 (45.5%) of the providers indicated that condoms are offered by clinics.

TABLE XII: Problems encountered by the Service Providers in the Management of F. P. Clinics

N=11

Problem	No.	Percentage
Inadequate space	5	45.5%
Lack of Equipment	2	18.2%
Lack of training	1	9.1%
Inability to provide Clients with preferred methods	1	9.1%
Staff disturbed by other duties	1	9.1%
Staff Storage	1	9.1%
Total	11	100%

The majority of service providers 5 (45.5%) indicated that the main problem they faced was that of inadequate space.

TABLE XIII: **Recommendations made by the service providers for the improvement of F. P. services provided at the clinics**

N=11

Recommendations for improvement	No.	Percentage
In Service training	6	54.5%
Improvement in supplies and equipment	2	18.2%
No response	3	27.3%
Total	11	100%

The majority of staff 6(54.5%) recommended in-service training for staff as a way of improving the services.

Results of the Observations:

Technical Competence of Staff:

In order to measure the technical competence of the staff under observation the researcher focussed on three main areas of the client/provider interactions these were:

- Completeness of history taking
- Examination of the patient
- Completeness of the information and education given to the client.

A. Completeness of History Taking

None of the clients had a complete reproductive history taken by the service provider. Out of 40 interactions observed 27 (67.5%) of the clients had history taken about the number of children they have whilst 13 (32.5%) did not. The service providers asked 24 (60.0%) of the clients history of the total number of pregnancies they had whilst 16 (40.0%) were not asked. A majority of 22 (55.0%) of the clients were asked history of previous caesarean section whilst 18(45.0%) were not.

Menstrual history taking was also incomplete with almost all the women 39(97.5%) being asked menstrual history whilst 1(2.5%) was not asked.

In relation to history of F.P. practice, the majority of clients 35(87.5%) were asked the type of contraceptives used whilst 5(12.5%) were not.

Of the 40 interactions 28(70.0%) of clients were asked to comment on previous contraceptives used whilst 12(30.0%) were not.

There were not great variations in the medical history taking. The majority of clients 24(60.0%) were asked whether or not they had suffered from severe persistent headaches whilst 6(40.0%) were not, 22(55.0%) of the clients had history of liver disease, varicose veins tuberculosis taken whilst 18(45.0%) were not. On the other hand 21(52.0%) of the clients had history of epilepsy, diabetes mellitus and veneral disease taken whilst 19(47.0%) did not. The remaining 18(45.0%) of the clients had history of hypertension and renal diseases taken whilsts 22(55.0%) did not.

B. Examination of the Client by the Service Provider

Two aspects of examination were completely done 40(100%) of the clients had their weights and blood pressures taken. During examination 20(50%) of the clients had a physical examination whilst 20(50%) did not. For the vaginal examination 19(47.5%) of the clients had a vaginal examination whilst the rest 21(52.5%) did not. A minority of 13(325%) of the clients had a speculum examination whilst 27(67.5%) did not.

At the one clinic of all the clients attended to,0(0%) did not have a vaginal examination done, and 0(0%) had a speculum examination done.

Aspects such as hand washing were also observed. Out of the 40 patient provider interactions observed the service providers washed hands before and after each interaction 20 times. The staff at one clinic (Arakan) did not wash hands at all. Carrying out of relevant tests was also observed

for. There were a total of 15 new clients and out of these none (0%) had blood taken for VDRL and 5 had a high vaginal swab taken.

Information and Education given to the Client

During counselling it was observed that the majority of clients 32(80.0%) were given information on the availability of the method chosen whilst 8(20.0%) were not. The majority of the clients 25(62.5%) were given information on the various methods available whilst 15(37.5%) were not Information in the advantages and disadvantages of the available methods was given to 22(52.5%) of the clients whilst 18(45.0%) were not. The rest of the clients 19(47.5%), 18(45.0%) and 17(42.5%) were given information about suitability of the preferred method, were made aware that they could make an informed choice and were told about other sources of F.P. methods respectively. On the other hand 21(52.5%), 22(55.0%) and 23(57.5%) were not given this information.

Adequacy of Space

During the observation at one of the clinics it was noted that the flow of the clients in the clinic was not smooth. The clients were too many to sit on the benches provided for waiting outside the room were the service providers were. They were therefore made to sit and wait in the same room where the two service providers were interacting with the other clients. The furniture on one side of the room

was a large table which was inappropriate and contributed to the shortage of space.

The room was divided into two by an incomplete wall. The partition created by this wall was used for the examination of the client. There were too many people in the room and it was overcrowded particularly during the peak of the clinics.

The other clinic however admitted one client in the room at a time. The furniture was relevant and well spaced. The waiting clients were made to wait on the bench outside the room.

Privacy

During examination and history taking of the clients 20(50%) there were other health providers present (in the room part of the time, whilst for 14(35.0%) of the clients interactions other health providers were present the whole time and during 6(15%) client provider interactions there were no other health care providers present in the room. On the other hand during history taking of the majority of clients 22(55.0%) there were other clients present in the room. Whilst for the other 18(45.0%) there were no other clients present in the room.

In the one clinic the curtains were used during client examination where as in the other clinic the curtains were not available for use. The clients examined in the second clinic were generally over exposed and no bedsheet was used to cover the client during examination.

Personal relationship and communication between the client and care provider

The majority 29(72.5%) of clients were welcomed by the service provider whilst 11(27.5%) were not welcomed, 23(57.5%) of the clients asked few questions whilst 10(25.0%) did not ask question and 7(17.5%) asked several questions.

Of the 40 interactions, the service providers gave clear answers to 17(51.5%) of the clients; whilst 13(39.4%) clients were given several answers and 3 clients (9.1%) received no answer at all.

AT the end of each interation the majority of clients 26(65.0%) thanked their clients whilst 14(45.0%) did not.

When responding to questions from the service provider the majority of clients 37(94.9%) answered openly whilst the minority 2(5.1%) answered using single words.

Adequacy of supplies and equipment

Observation showed that whilst one clinic was well equipped with implements necessary to carry out family planning activities such as blood pressure machine, scale, sterilised instruments,spot light, a mechanised couch, sterile gloves, curtains and the antiseptic solutions the other clinic had only the couch, sphygmomanometer and scale as well as the books for registers, cards. There were three types of contraceptives that the client could make a choice from namely the pill, condoms and sampoons.

CHAPTER 6 : 6.1 DISCUSSION OF FINDINGS

The study assesses the quality of family planning services provided by the Defence Forces Medical services at Arakan and Maina Soko Clinics. The discussion will be focussing on the stated study objectives.

1. **Technical quality of the service.**

Technical competence involves, principally, factors such as the competence providers in clinical skills, the observance of protocols and the meticulous asepsis required to provide clinical methods such as insertion of intrauterine devices, implants and sterilization (Anrudh, 1992). Results of this study revealed a low technical quality of service. The majority of staff providing services at the two clinics are not trained in Family Planning.

The services provided were not of the required standard for a quality F.P service. For instance results revealed incompleteness in the taking of History. During history taking 27(67.5%) of the clients were asked their past obstetrical history whilst 13(32.5%) were not. The information such as previous caesarian section were in some instances omitted. The medical History taking was also incomplete; out of 40 interactions observed 34(60.0) of the clients were asked as to whether they had suffered from persistent headaches whilst 6(40%) were not, 22(55.0) of the clients had history of liver disease, varicose veins and tuberculosis taken whilst the remaining 18(45.0%) of the clients had history of hypertension and renal diseases taken whilst 22(55.0) did not.

These results show that there is a general inadequacy in the areas of history taking. These results were in contrast with results of the study by Miller et Al in Kenya in 1989. Results of their study revealed a high technical quality of service, a medical history was taken for 85% of

all the clients seen (Miller et Al, 1989). The current study revealed that essential information was omitted as it was not solicited for by the service providers. History taking in F.P is important because it forms a basis for prescription and care, forms important baseline data upon which identification of problems, plans for intervention and continuity of service depends. Inadequacy in history taking could be due to the fact that the staff in the clinic have not all undergone special training in F.P. It could also be due to the lack of privacy during history taking resulting in the inhibition of providers and clients.

The study further assesses quality of the service y observation of the client examination, results showed that all the 40(100%) clients were examined for weight and blood pressure. Where as half (50%) of the clients had a physical examination done the other half did not. Of those examined 19(47.5%) had a vaginal examination done whilst the rest 21(52.5%) did not. A minority of 13(32.5%) of clients had a speculum examination whilst 27(67.5%)) did not. At one clinic none of the clients examined had a vaginal examination what so ever. The staff in the same clinic did not observe handwashing before procedures or in between clients. This could be attributed to the fact that a handwashing or they had no water nearby as the clinic had no handwash basin. The fact that the staff made no effort to procure water for handwashing further confirms the fact that they are not technically competent. The results are also similar to those of the Kenya study conducted by Miller et Al. Results of the study revealed that the nurses observed in one of the clinics under observation did not wash hands, they did not observe asepsis and did not change gloves or sterilize instruments after the procedure. the nurses were observed to use gloves for their own protection rather than that of the clients (Miller et Al, 1992).
Out of 15 new clients none (0%) have blood taken for VDRL and 5 had a high vaginal swab

taken. The inadequate physical examination of the clients can be attributed to poor knowledge and skills of the providers. Only 2% of the providers have received special training in F.P. The rest rely on their F.P knowledge acquired during midwifery training or from their colleagues. The non nursing staff such as the Nutritional Assistant, and Nurse aide do not have any formal training in F.P. Overall results of the physical examination reveal a low technical quality of the services provided.

Information and Education given to the clients was adequate for certain topics where as it was in adequate in others. The majority of clients (80.0%) were given information on the availability of the method chosen whilst 8(20%) were not. Information on the advantages and disadvantages of the available methods was given to 22(52.5%) of the clients while 18(45.0%) were not. Information was in adequate in areas such as suitability of the preferred method, awareness of the client that he can make an informed choice and other sources of F.P 21(52.%%) 22(55.0%) and 23(57.5%) were given this information respectively. Results obtained were similar to those of A.K. Jain (1990) findings in a study of the quality of F.P services in Ecuador. The study results reveal that clients were informed about how to use contraceptive methods and the benefits of the methods, but they were not informed about contraindications, complications and the management of the complication. Jain goes further to explain that this could be a possible origin of discontinuation and of negative attitudes towards methods when side effects are experienced by clients (A. Jain,1990) .

The assessment of technical quality of the F.P services in this study reveals that on the basis of the criteria selected for measurement of the technical competence of staff, it was observed that staff competence on the average was low.

2. **Interpersonal relationships**

The majority, 72.5% of the clients were welcomed by the service provider whilst 27.5% were not. The reception that the client receives does to a large extent influence the impression that the client develops about the health service. The fact that 27.5% of the clients were not welcomed to the clinics could be indicative of the fact that due to the high client attendance the providers towards the client. This attitude may have resulted in the providers taking for granted the fact that they needed to welcome each client individually with respect.

The study further reveals that the client were afforded an opportunity to ask questions out of 40 clients 23(57.5%) asked few questions whilst 10(25.0%0 did not ask questions and 7 (17.5%) asked several questions.

At the end of the interactions the majority 26(65.0%) of clients were thanked by the service provider whilst 14 (45.0%) were not thanked at all. Interpersonal relationships between service providers and their client form an important aspect of the quality of F. P. services provided. According J. Bruce, (1992) interpersonal relationships form one of them attributes of the service delivery system that influence women's willingness to adopt modern contraceptive means and sustain use (J. Bruce, 1992). She states that the client-provider human relationships should be respectful, observe the modesty concepts and appreciate either the independence of the users's decision or the co-operation of desired with the partner. This statement goes to emphasise the importance of the interpersonal relationship not only as a means to lure the clients to continue using the services but also to enable them to use the services effectively.

In the current study the fact that 72.5% of the clients were welcomed by the provider indicates that this aspect of the interpersonal relationship was better observed. The other aspect

such as 25% of clients not being able to ask questions indicates that they may have been inhibited either due to lack of privacy or the speed with which they were being attended to by the service providers.

3. **Time spent with the Client**

The time the service provider spends with the client is dependent upon individual client needs, it varies from client to client. In responding to the questionnaire, the majority 8 (72.7%) of the providers said that they spent adequate time with each client whilst the rest 3 (27.3%) felt the time spend was inadequate whereas 9 (81.8%) of the providers said that they spend less than 10 minutes with each client whilst the rest 1 (9.1%) stated that they spend between 10-20 minutes and 20-30 minutes with each client respectively. Observation revealed that the median time of 10 minutes was spent with each client. These results show that on average the time spent with each client was inadequate. This is because the majority of providers state that they spend less than 10 minutes with each client and observation confirms this. The same client provider contact time can be attributed to the fact that there were a lot of shortcuts observed in the interactions. One of the clinics has a scheduled time table with a resultant high client load during the specific clinic days. As a result the provides were working with the aim of treating as many clients as possible within the soonest time possible. This observation concurs with the findings of Mutwale in her study to evaluate the integrated FPMCH services conducted in Lusaka in 1993. She concluded that the shortage of manpower and increased attendance resulted in the provider laying emphasis on getting the work done without reference to quality of care (Mutwale, 1993).

Results of the study reveal that staff in one clinic have heavy commitment and as a result there is provision of the service with little reference to quality and a resultant low client-provider contact time. The other reason for the low time spend with each client could be that he physical examination in one clinic are not routinely carried out and the few that are done were observed to be incomplete.

4. **Choice of Method**

Results of the study reveal that the clients have a limited choice of methods to choose from especially in one clinic which provides condoms, oral contraceptives and sampoons. In both clinics there is no loop insertion carried out by the service provides who regularly run the clinic. This means that clients have to be referred to the hospital's gynaecologist who runs clinics once a week. Sometimes clients from the clinics have to be referred to the UTH or other nearby clinics for loop insertion. Natural scientific family planning is provided occasionally by one of the two clinics. A physical check conducted by the researcher revealed that during the data collection period the clinics only had oral contraceptives and male condoms in stock. The fact that the clients have to be referred to the next clinic for loop insertion may result in high failure rates as well as high drop out rate. This statement concurs with the ascertain made by Fredman and Takeshita (1969) that availability of multiple methods improves continuation of contraceptive use.

In addition to the methods available being limited, only 25 (62.5%) of clients were given information on the various methods available whilst 15 (37.5%) were not. This lack of exposure of the client to the available methods limits their choice even further. Just because a woman expresses interest in a particular method does not mean she will be provided without particular

method (Mensch, 1986). This statement implies that the wide choice of F.P devices available to the client coupled with the knowledge of this choice helps the client to make a good informed choice. The client is able to select the method she is most comfortable with and which is safe and appropriate. According to John Ickis the wide range of methods offered by the F. P. programmes in Latin America enables them to respond to the needs of different age, economic, cultural and gender groups (Ickis, 1990).

5. **Adequacy of space and privacy**

Amongst the constraints listed by the services providers in management of F.P. service 45.5% stated that they did not have adequate space. During observation this inadequacy of space was noted by the researcher. The clients in other clinic were made to sit outside on the queue and other had to wait inside the consultation room. This made it difficult for smooth client flow to take place.

The privacy of the clients was greatly affected in one of the clinics where there was space shortage. The auditory privacy was not observed as there were other clients and service providers carrying out other clinic activities present almost throughout the clinic. It was further observed that despite the space shortage, one of the staff was selling scones inside the clinic. This opened room for traffic from outside. Visual privacy on the other hand was to some extent achieved by the partitioning wall that divided the room into two. The clients were however over exposed during the actual physical examination because no draw sheet was used to cover them. In the other clinic whoever, privacy was relatively well maintained. There was adequate room and the client flow was smooth with plenty of waiting space and no overcrowding. Privacy is important in that the client feels free and her basic right to privacy is observed. The client -

provider interaction is enhanced and the client is encouraged to express her consensus thereby making it easier and possible to feel her needs to be identified and met.

In the same Kenya study of the quality of physical examination 68% of clients were provided with auditory privacy, whereas 92% were provided with visual privacy. this shows that service providers consider visual privacy to be more important than auditory privacy. The fact that the client information should be treated as private is often overlooked by F.P service providers being unable to gain as much data about the client as would be possible if privacy were observed.

6. **Mechanisms to Encourage clients to continue utilising F. P. Services**

The study reveals that 34(87.52%) of the clients were given their date for next appointment whilst 5 (12%) were not. Inquiry revealed that due to inadequate time and trained personnel no home visits are conducted for follow up of clients at home. There is no community based distribution system in place. The findings of the study are contrary to the findings described by Ickis's report on the follow up study conducted in 1989 in Ecuador. It was found that only 10% of clients without appointments did not return for follow up care check date (Ickis, 1990). Effective follow systems should be developed to identify potential discontinues and to ensure that clients continue to use and be satisfied with the F.P. services (F.P. manager, 1994). In the event of the clinic being unable to provide certain services clients should be equipped with the information that enables them to seek services elsewhere. The study reveals that 23(57.5%) of the clients did not receive information about alternative sources of F.P. Services and 17(42.5%) were given this information. Continuity of the service is important if the

clients are to be consistent in their use of the services. This in turn should help to reduce the rate of unplanned pregnancies.

The failure to inform the clients about the next appointment could have arisen in part because the service providers took it for granted that the clients knew the next visit date. The providers on the other hand may not have adequate knowledge on the importance of F.P continuity and the mechanisms to encourage clients to continue utilizing the services. In another study by J. Ickis it was found that even the most year organised programs in Latin America do not appear to have established reliable mechanisms to promote continuation of contraceptive use (Ickis, 1990). However a survey in 5 Latin American States, it was found that despite the availability of community based distributors there was high dropout rate with reason unknown to the distributor (Ickis, 1990).

Other Observations

One of the Clinic utilizes non medical practitioners. One of these practitioners who is not trained in F. P was found providing services to the clinic attendants. The research took an interest and observed her interactions with the clients. The larger part of the services provided by here were not according to the principles of safe F. P. practice. She is not technically competent and was therefore unable to provide quality F. P. services to the clients she was attending to. During a study conducted by Miller et Al in Nairobi (1989) it was noted that the absence of trained F. P nurses resulted in their being replaced with staff who were untrained. As a result the services were restricted to resupply of pills and sometimes foam or condoms to continuing clients (Miller et Al, 1989). The result of Millers' study compliment the result of the

study under discussion in that the untrained provers had to refer all new clients as well as client with special needs to the Nurse Midwife in the same clinic.

6.2. Implications for the Health system

The findings of the study reveal that the quality of family planning services provided by Defence Forces Medical Services at Maina Soko and Arakan Camp Hospital F. P.Clinics is low in one clinic and better in the other.

The general lack of adequately trained personnel, utilization of non-medical personnel as well as lack of appropriate F.P equipment, limited choice of supply, lack of standardized practice protocols all result in poor technical quality of the services provided. In order for the efficient implementation of F.P services to take place, the technical quality of service ought to be high. this in turn would lead to improved coverage with effective F.P services. The resultant reduction of the population growth rate stems from high quality of F.P services. Literature review reveals that the quality of F.P services offered by a clinic has positive co-relation to the client attendance.

The clinics understudy face logistical problems such as inadequacy of space and as a result privacy is compromised. This is especially so in one of the 2 clinics. Lack of transport and manpower for outreach activities, shortages in supplies and equipment such as sterilizers, autoclaves, screens, examination couch, spotlights and other equipment essential for safe F.P. practices. The lack of these logistics results in flaws in the process of care. The service providers are incapacitated in their efforts to provide quality F.P services to the consumer. the lack of equipment and supplies may result in high dropout rates.

The Clinics follow the scheduled time table system and do not have integrated services. this also has negative effects on the quality of services as observed in the one clinic. Scheduling

resulted in high client attendance with a low contact time. As a result the interaction was hurried and to a large extent ineffective as observed during the observation by incomplete history taking, hurried health education as well as incomplete physical examinations. These aspects of F.P services form an integral part of the service. The client is also inconvenienced because she is unable to attend the clinic when it's most convenient to her. the scheduling of clinics also implies that the client has to make several trips to the clinic on various days in order to receive other services e.g. post natal clinic, children's clinic and several other clinics.

The aspects of follow up and mechanisms to encourage continuity of the services are inadequate. the clients are not given opportunity to be followed up in their homes. There are no community based distributors. the information given to the clients was observed to be inadequate and makes it difficult for the client to decide where to go for alternative management. Literature review reveals that a well informed client is likely to continue the practice of family planning as opposed to an ignorant one. If the DFMS are to play a prominent role in reducing Zambia's rapidly growing population, they ought to improve the quality of the F.P. services in order to raise both the utilization as well as the effectiveness of the F.P services provided.

CHAPTER 7

CONCLUSION AND RECOMMENDATION

7.1 CONCLUSION:

The study reveals that the quality of family planning services is better in one clinic as compared to the other. The technical quality of services provided is low in both clinics according to the criteria used for measurement for the purpose of the study. There is a general lack of appropriately trained staff resulting in the utilization of unqualified non-medical personnel to fill-in for the staff shortage in the clinic.

Logistical problems such as inadequacy of space with a resultant inadequacy of both auditory and visual privacy has to a large extent affected the quality of the services provided, especially by one of the two clinics. Shortage of supplies and equipment is notable in the one clinic where the most basic equipment such as sterilizers, autoclaves, speculae, trays, screens etc. are not available.

The scheduled non-integrated service time table was observed to be the cause of increased client load during clinic days. As a result, the providers were working to provide the service in a great hurry in order to attend to as many clients in as short a time as possible. As a further result, the contact time observed was low with an incomplete client/provider interaction in most instances.

7.2 RECOMMENDATIONS:

Based on the findings of the research study, the researcher would like to make the following recommendations:-

(1) A Policy on Family planning service provision derived from the National Population Policy should be formulated to suit the aims and purposes of the Defence Forces Medical Services. This policy should be adopted to suit the

Defence Forces' local conditions and medical services structure.

(2) The Defence Forces Medical Services should adopt the integrated MCH/FP approach to service provision; and collaborate closely with the Ministry of Health when local programmes in F.P. are offered.

(3) There should be a reorganization of the MCH/FP: The MCH/FP Clinics should be grouped into zones with a qualified Community Health Nurse responsible for supervision of each zone.

(4) The MCH/FP services for Defence Forces Medical Services should be co-ordinated by an MCH specialist at medical Directorate level.

(5) All MCH/FP service providers must be trained in Family Planning.

(6) Mal-deployment of F.P. providers should be discontinued as it deprives the F. P. services of much needed expert staff and thereby creates artificial shortage of staff, as well.

(7) Renovations should be made at one of the two clinics in order to expand the room and fit in the basic required equipment needed for provision of a quality F. P. Service.

(8) There is a general need for improved logistical supplies with special emphasis on equipment and supplies especially at the one clinic in order to enable the staff to provide safe and good quality services.

(9) The present study should be carried out on a larger scale in order to assess the quality of services focusing on the three aspects of quality. These aspects being the structure, process and outcome.

ANNEX I

REFERENCES:

1. Judith Bruce (1976) — Women's Interests: How can Family Planning Managers Respond? Managing Quality of Care In Population Programs. USA. P. 36.

2. Raymond Chipoma (1989) — Review of Zambia's Population Policy Objectives, targets and Strategies In Relation to Fertility and Development Linkages. PROCEEDINGS OF THE NATIONAL CONFERENCE ON ZAMBIA'S POPULATION POLICY. May 17-18, 1989, Lusaka, Zambia. P. 257.

3. Republic of Zambia Central Statistical Office (1990) — Census Report for 1990, Lusaka, Zambia

4. Ronald Fredman and John Takeshita (1969) — Family Planning In Taiwan, Princton, USA.

5. Republic of Zambia: Ministry of Health (1992) — National Health Policy and Strategies, Zambia. PP i-ix

6. Lillian Erickson (1987) — Patient Satisfaction an Indicator of Nursing Care

Qulity?; Nursing Management Volume 18, No. 7, July 1987.
P.P. 31-32

7. General Nursing Council of Zambia — Nurses and Midwives Curriculae

8. John C. Ikis (1990) — Quality of Family Planning Services in Latin America: Regional Review. Managing Quality of Care In Population Programs, USA.
p.p. 72, 75, 77, 81

9. Anrudh Jain (1992) — Managing Quality of Care in Population Programs, USA.
p.11

10. W. Manyeneng (1990) — Integrated Family Planning in Public Health Sector Programs: Botswana Case Study. Options FOR FAMILY PLANNING SERVICES DELIVERY.
P.107.

11. Barbra S. Mensch (1993) — Family Planning in Nairobi: A situation Analysis of the City Commission Clinics; International Family Planning Perspectives, Volume 20, No. 2, June 1994.
p.p. 48, 49

12. Robert A. Miller et Al (1992) — Situation Analysis of Kenya's Family Planning Programme. Managing Quality of Care in

Population Programs. USA.
p.p. 102, 103, 104, 106.

13. F. P. Manager (1994) Improving the quality of Family Planning Services. The Family Planning Manager Volume III, No.4. P.12.

14. Planned Parenthood Association of Zambia (1986) A study of drop out in the Lusaka Branch out lets of PPAZ, Lusaka, Zambia. p.p. 50-51

15. Planned Parenthood Association of Zambia (1986) Who Attends Family Planning Clinics in Lusaka Province? Lusaka Zambia. p. 33

16. Anne O'Leavy (1992) Patient satisfaction as a Measure of quality in the Care of the Elderly British Journal of Nursing, Volume 1, Number 9. p. 470.

17. Itannu Vuori (1991) Patient satisfaction, Does it Matter? Quality Assurance In Health Care, Volume 3, No. 3 P.199.

18. The World Bank (1993) Zambia Health Sector Study. QUALITY OF CARE BENEFICIARY ASSESSMENT STUDY, Zambia, February, 1993.

19. Republic of Zambia

2DHS (1992) Demographic and Health Survey 1992, Zambia, March, 1993.

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P O Box 50110
LUSAKA

28 August 1995

RESEARCH PROJECT - BACHELOR OF SCIENCE DEGREE IN NURSING

1. Reference is hereby made to your letter dated 8th August 1995 in regard to above subject matter.

2. I am directed to inform you that authority has been granted for you to proceed with data collection for your research project.

R CHIBALE
Lieutenant
for Director General of Medical Services

Copy to:-

The Permanent Secretary
Ministry of Defence
P O Box 50017X
LUSAKA

Head - Post Basic Nursing

OBSERVATION GUIDE

ASSESSMENT OF THE QUALITY OF

FP SERVICES PROVIDED AT

MAINA SOKO AND ARAKAN CAMP HOSPITAL

OBSERVATION GUIDE

ASSESSMENT OF THE QUALITY OF

FP SERVICES PROVIDED AT

MAINA SOKO AND ARAKAN CAMP HOSPITAL

SELF ADMINISTERED QUESTIONNAIRE

FOR THE SERVICE PROVIDER

DATE:_____

INSTITUTION:_____

NO. OF QUESTIONNAIRE:_____

INSTRUCTION:

1. DO NOT WRITE YOUR NAME ON THE QUESTIONNAIRE
2. ANSWER QUESTIONS BY TICKING ON THE SPACE PROVIDED
3. FOR THOSE QUESTION REQUIRING AN EXPLANATION WRITE IN THE SAME SPACE PROVIDED
4. ANSWER THE QUESTION BY TICKING THE ANSWER YOU PERCEIVE TO BE RIGHT OR APPLICABLE TO YOU
5. DO NOT DISCUSS YOUR ANSWER WHILE ANSWER

SELF ADMINISTERED QUESTIONNAIRE

FOR THE SERVICE PROVIDER

DATE:_____

INSTITUTION:_____

NO. OF QUESTIONNAIRE:_____

INSTRUCTION:

1. DO NOT WRITE YOUR NAME ON THE QUESTIONNAIRE
2. ANSWER QUESTIONS BY TICKING ON THE SPACE PROVIDED
3. FOR THOSE QUESTION REQUIRING AN EXPLANATION WRITE IN THE SAME SPACE PROVIDED
4. ANSWER THE QUESTION BY TICKING THE ANSWER YOU PERCEIVE TO BE RIGHT OR APPLICABLE TO YOU
5. DO NOT DISCUSS YOUR ANSWER WHILE ANSWER

SECTION A - BACKGROUND INFORMATION

1. Sex

   a. Male [ ]

   b. Female [ ]

2. How old are you

   a. below 20 yrs [ ]

   b. 21-25 [ ]

   c. 26-30 [ ]

   d. 31-35 [ ]

   e. Above 40 [ ]

3. What is your professional educational qualification

   a. RN/RM [ ]

   b. RN [ ]

   c. EN/EM [ ]

   d. EM [ ]

   e. ADDITIONAL TRAINING (SPECIFY)_____

4. How long have you practised after your basic education_____

5. How long have you worked in this family planning clinic

   a. Below 1 year [ ]

   b. 1-3 yr [ ]

   c. 4-6 yrs [ ]

   d. 7 yrs [ ].

6. How many clients did you attend to last week?

   _____

7. How much time do you normally spend with each other?

   a. Below 10 minutes [ ]

   b. 20-30 minutes [ ]

   c. 20-30 minutes [ ]

   d. Above 30 minutes [ ]

8. Do you think the time you spend with each client is adequate?

   a. Yes [ ]

   b. No [ ]

9. Explain your answer?_____

   _____

10. Do you have all the equipment you need for family planning?

    a. Yes [ ]

    b. No [ ]

11. If no why?_____

    _____

12. Do you have a constant supply of all family planning devices?

    a. Yes [ ]

    b. No [ ]

13. If no, why not:_____

    _____

14. List all the family planning methods offered by the clinic?

    _____

    _____

    _____

15. Of the methods you have listed in (14) which type is the most popular?

_____

_____

16. Of the methods you have listed in (14) which type is often out of stock?

_____

_____

_____

17. Which are the most important components that you think characterise good quality care in family planning?

1. _____
2. _____
3. _____
4. _____
5. _____

18. Do you think you have adequate knowledge for giving good care to the family planning clients?

a. Yes [ ]

b. No [ ]

19. If now what area would you like to have more training in?

_____

_____

20. When last did you attend a workshop, seminar or any training in family planning?_____

_____

21. Is there anything that you think is particularly difficult about family client?

a. Yes [ ]

b. No [ ]

22. If yes, list the difficulties_____

_____

23. Are there any problems in your clinic concerning the management of F.P. clients?

a. Yes [ ]

b. No [ ]

24. If yes why?

a. The staff are not adequately trained [ ]

b. There is inadequate staffing [ ]

c. We have in adequate supplies and Equip. [ ]

d. There is inadequate water supply [ ]

e. There is inadequate space [ ]

f. Other (specify)_____

25. Are you happy with your working condition?

a. Yes [ ]

b. No [ ]

26. If no, does this in any way affect you work?

a. Yes [ ]

b. No [ ]

27. If yes, explain how:_____

_____

28. Recommendation for the improvement of devices provided by this clinic:

_____

_____

_____

OBSERVATION GUIDE

TIME STARTED:_____ DATE:.../.../. ..

NO._____ __

TIME ENDED:_____ HOSPITAL:..... ..

1ST ATTENDANT [ ] REVISIT [ ]

SECTION A BACK GROUND INFORMATION

1. HEALTH CARE PROVIDE

   A. Medical Doctor [ ]

   B. Clinical Officer [ ]

   C. Nurse [ ]

   D. Other [ ]

2. SEX PROVIDER

   A. Man [ ] B. Woman [ ]

3. SEX OF THE PATIENT

   A. Man [ ] B. Woman [ ]

4. AGE:_____

SECTION B: WAS THE CLIENT ASKED QUESTIONS ABOUT?

5. MARITAL STATUS:

   A. Married Monogamy [ ]

   B. Married Polygamy [ ]

   C. Divorced [ ]

   D. Single [ ]

   E. Widowed [ ]

   F. Co-habiting [ ]

6. AGE: Yes [ ] No [ ]

7. ADDRESS OR RESIDENCE: Yes [ ] No [ ]

8. TOTAL NUMBER OF PREGNANCIES: Yes [ ] No [ ]

9. NUMBER OF CHILDREN: Yes [ ] No [ ]

10. DATE OF DELIVERY: Yes [ ] No [ ]

11. HISTORY OF CAESARIAN BIRTH: Yes [ ] No [ ]

12. WHETHER SHE IS PRESENTLY BREASTFEEDING:

Yes [ ] No [ ]

13. HISTORY OF PID/STD Yes [ ] No [ ]

14. HISTORY OF MONTHLY PERIOD: Yes [ ] No [ ]

15. LAST MENSTRUAL PERIOD: YES: Yes [ ] No [ ]

16. HISTORY OF FAMILY PLANNING: Yes [ ] No [ ]

17. TYPE CONTRACEPTIVE USED: Yes [ ] No [ ]

18. COMMENTS ON PREVIOUS CONTRACEPTIVE USED:

Yes [ ] No [ ]

WAS MEDICAL HISTORY OBTAINED ON THE FOLLOWING?

19. SEVERE PERSISTENT HEADACHES: Yes [ ] No [ ]

20. EPILEPSY: Yes [ ] No [ ]

21. DIABETES MELLITUS: Yes [ ] No [ ]

22. LIVER DISEASE: Yes [ ] No [ ]

23. VARICOSE VEINS Yes [ ] No [ ]

24, HYPERTENSION Yes [ ] No [ ]

25. RENAL DISEASE Yes [ ] No [ ]

26. TUBERCULOSIS Yes [ ] No [ ]

27. VENEREAL DISEASE Yes [ ] No [ ]

EXAMINATION OF THE PATIENT

28. PHIPICAL Yes [ ] No [ ]

29. BP Yes [ ] No [ ]

30. VE Yes [ ] No [ ]

31. USE SPECULUM Yes [ ] No [ ]

32. USE GLOVES Yes [ ] No [ ]

33. WASHED HANDS BEFORE AND AFTER PROCEDURE

Yes [ ] No [ ]

34. HIGH VAGINAL SWABS TAKEN Yes [ ] No [ ]

35. BLOOD TAKEN FOR VDRL Yes [ ] No [ ]

POSITION OF PATIENT/PRIVACY

36. PATIENT POSITION

A. Lying [ ]

B. Sitting [ ]

C. Standing [ ]

37. OTHER STAFF PRESENT IN THE ROOM

A. Whole Time [ ]

B. Part of the time [ ]

C. Not present throughout [ ]

38. OTHER CLIENTS IN THE Yes [ ] No [ ]

39. RELATIVE IN THE ROOM Yes [ ] No [ ]

40. USE OF CURTAINS Yes [ ] No [ ]

INFORMATION AND HEALTH EDUCATION

41. CLIENT INFORMED ABOUT VARIOUS METHOD AVAILABLE: Yes [ ] No [ ]

42. CLIENT INFORMED ABOUT ADVANTAGE AND DISADVANTAGE OF THE AVAILABLE METHODS Yes [ ] No [ ]

43. CLIENT INFORMED ABOUT THE MECHANISM OF ACTION Yes [ ] No [ ]

44. COUNSELLING DONE AND THE SUITABILITY OF THE PREFERRED METHOD Yes [ ] No [ ]

45. CLIENT MADE AWARE THAT SHE IS FREE TO MAKE A FREE AND INFORMED CHOICE Yes [ ] No [ ]

46. INFORMED ABOUT OTHER SOURCE OF FAMILY PLAN METHODS Yes [ ] No [ ]

47. CLIENT GIVEN INFORMATION ABOUT THE AVAILABILITY OF THE METHOD THE CLIENT HAS CHOSEN

Yes [ ] No [ ]

48. CLEAR INSTRUCTION GIVEN ABOUT THE SUITABILITY OF THE METHOD THE CLIENT HAS CHOSEN

Yes [ ] No [ ]

49. CLIENT GIVEN DATE OF NEXT REVIEW

Yes [ ] No [ ]

SECTION F: COMMUNICATION/INTERPERSONAL RELATIONSHIPS

50. WAS THE CLIENT WELCOMED Yes [ ] No [ ]

51. CLIENTS ASKS QUESTIONS:

A. Yes few [ ]

B. Yes several [ ]

C. No [ ]

52. HEALTH CARE PROVIDER ANSWER:

A. No Answer [ ]

B. Yes several [ ]

C. Clear answer [ ]

53. HEALTH CARE PROVIDER ASKS QUESTIONS

Yes [ ] No [ ]

54. PATIENT ANSWER: A. Openly [ ]

B. Single wards [ ]

C. Reluctantly [ ]

D. No response [ ]

55. HEALTH CARE PROVIDER THANKS CLIENT AT THE END OF THE SESSION: Yes [ ] No [ ]

56. REMARKS: _____

_____

_____

_____

OBSERVATION GUIDE

TIME STARTED:_____ DATE:.../.../. ..

NO._____ __

TIME ENDED:_____ HOSPITAL:..... ..

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_____