

**THE EFFECTS OF AVAILABILITY OF REPRODUCTIVE HEALTH SERVICES
ON THE CONTRACEPTIVE USE AND METHOD CHOICE IN THE CITY OF
TSHWANE METROPOLITAN MUNICIPALITY**

BY

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**A RESEARCH REPORT SUBMITTED TO THE FACULTY OF HEALTH
SCIENCES, UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG, IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE (MEDICINE) IN EPIDEMIOLOGY AND
BIOSTATISTICS.**

FEBRUARY 2008

DECLARATION

I Dr Delphin-Cyrille Tshibangu declare that this research report is my own original work and that it is based on the analysis of data set I collected for that purpose in the City of Tshwane Metropolitan Municipality in June 2004. It is being submitted for the degree of Master of Science (Medicine) in Epidemiology and Biostatistics of the University of the Witwatersrand, Johannesburg, South Africa.

To the best of my knowledge, this research report has not been submitted before in part or in full for any degree or examination at this or any other University.

Name and Surname: Dr. Delphin-Cyrille TSHIBANGU

Authorized signature:

Date: 15 / 02 / 2008

Place: Tshwane (Pretoria)

This research report has been submitted for examination with my full approval.

Name and Surname: Dr. Delphin-Cyrille TSHIBANGU

Authorized signature:

Date: 15 / 02 / 2008

Place: Tshwane (Pretoria)

DEDICATION

I dedicate this work to my father who passed away in 2004 and to my younger brother Dominique Mukendi Banfumu who tragically passed away recently, to my niece Jennifer Lusamba Mukendi, the deceased's only child, and to my two most precious friends and daughters Lusamba and Tshiama Tshibangu and their future.

ACKNOWLEDGEMENTS

This report is truly the synergic result of encouragement from a group of people, and without their tireless support it never would have come about. In preparing the study survey design and protocol, I have benefited from comments and guidance made by Dr P.A. Marchbanks, chief of the Epidemiology Section Women's Health and Fertility Division of Reproductive Health of the Center for Disease Control and Prevention (CDC) in Atlanta, Georgia, USA. I also express my deep appreciation to:

- ❖ Professor C.O. Odimegwu who was gracious in supervising this work. He was incredibly helpful in drawing my attention to structural problems, statements that I really could not support with the facts, and redundancy.
- ❖ Dr Zeleke Worku, a Senior Lecturer in Biostatistics at the School of Health Systems and Public Health of the University of Pretoria for his many contributions: reviewing the manuscript and offering suggestions for improvement.
- ❖ Dr Jonathan Levin from the Medical Research Council for his assistance in refining, improving and tightening the study findings during the throes of final drafting.
- ❖ Dr Marie Vermaak, the former General Manager for Health Care Division, for supporting and encouraging this special study.
- ❖ I would like to comment on the help and support I received from Mrs. R. Langa, manager of Social Data Collectors cc, for successfully conducting the field work of this survey, and from all respondents who voluntarily took part in the study.
- ❖ Finally, I want to register my unconditional love to my parents, Mr. and Mrs. Ephrem and Alice TSHIBANGU for giving me life and equipping me with a deep respect for it, and to my beloved wife, Marie-Madeleine Séwèdo TSHIBANGU for giving me a reason to live, for always encouraging me and for giving up a lot of our quality time together.

TABLE OF CONTENTS

DECLARATION.....	2
DEDICATION.....	3
ACKNOWLEDGEMENTS.....	4
TABLE OF CONTENTS.....	5
LIST OF FIGURES.....	6
LIST OF TABLES AND APPENDIX.....	6
ETHICS COMMITTEE (CITY OF TSHWANE) – HEALTH CARE.....	8
HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL): R14/49 TSHIBANGU – UNIVERSITY OF THE WITWATERSRAND.....	9
ABSTRACT.....	10
 CHAPTER 1: GENERAL INTRODUCTION	
1.1 Background information.....	11
1.2 Problem statement.....	12
1.3 Justification.....	12
1.4 Objectives.....	13
1.5 Literature review.....	14
 CHAPTER 2: METHODOLOGY	
2.1 Study design and population.....	17
2.2 Sample size.....	17
2.3 Description of sampling selection.....	17
2.4 Inclusion and Exclusion Criteria.....	20
2.5 Ethics approval.....	20
2.6 Questionnaire of the study.....	20
2.7 Pilot study.....	20
2.8 Training of field workers, supervision and organization.....	21
2.9 Limitations.....	22
2.10 Explanatory and Outcome study variables.....	24
2.11 Hypotheses.....	26
2.12 Data processing and management.....	26
2.13 Statistical methods of data analysis.....	26
 CHAPTER 3: RESULTS	
3.1 General information (household composition).....	31
3.2 Study population.....	32
3.3 Prevalence of contraceptive use.....	33
3.4 Bivariate analyses.....	41
3.5 Multivariate analyses.....	45
 CHAPTER 4: DISCUSSION	
Discussion.....	53

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS	
5.1 Conclusion.....	60
5.2 Recommendations.....	61
REFERENCES.....	65
APPENDIX.....	68

LIST OF FIGURES

Figure 1	Health sub-districts map with electoral wards
Figure 2.1	Five stages of sampling selection
Figure 2.2	Health sub-districts map with sampled areas
Figure 2.3	Conceptual framework of availability of reproductive health service
Figure 3	Receiver operating characteristic (ROC) Plot of the three fitted models

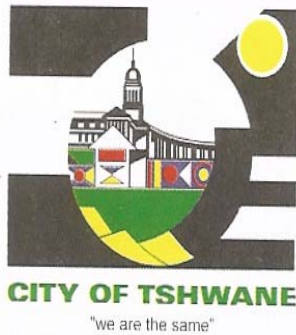
LIST OF TABLES

Table 2	Study variables and their definitions
Table 3.1	Description of sampled households
Table 3.2	Percent distribution of respondents by social and demographic characteristics
Table 3.3	Percent distribution of sexually active contraceptive users, not active and Women using no methods
Table 3.4	Percent distribution of sexually active users of all types of contraceptive methods
Table 3.5	Percent distribution of respondents who used and did not use any contraception by demographic and community characteristics
Table 3.6	Percent distribution of respondents who used and did not use any contraception by individual and programmatic characteristics
Table 3.7	Reasons for non-use of contraception
Table 3.8	Reasons for not using the preferred method
Table 3.9	Percent distribution of method choice by demographic and community Characteristics

Table 3.10	Percent distribution of method choice by individual and programmatic Characteristics
Table 3.11	Summary results of fitting three logistic regression models containing different numbers of covariates
Table 3.12	Multinomial model of contraceptive method choice

APPENDIX

1. Informed consent form
2. Questionnaire used



SOCIAL DEVELOPMENT Health Care

Sammy Marks Health Complex
cnr Vermeulen and Prinsloo Streets
Pretoria

PO Box 234
Pretoria
0001

Your ref:

Our ref:

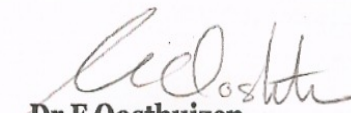
Enquiries: DR E OOSTHUIZEN
Tel: 012 358 8605 Fax: 324-5135
E-mail: ElfredaO@tshwane.gov.za

27 May 2004

To Whom It May Concern

This serves to confirm that the Department of Social Development, Health Care Division of the City of Tshwane Metropolitan Municipality has granted Dr DC Tshibangu permission to conduct the following entitled survey in Tshwane: "Reproductive health survey of women aged 15-49 years and nested Case-Control study of high risk young mothers (15-19 years) in the City of Tshwane Metropolitan Municipality" as from June 2004. This survey is entirely sponsored by this Department and its findings will be used to planning the reproductive health programme in the City and also build research capacity in the Department.

Kind regards,


Dr E Oosthuizen
Manager: Research and Development

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

R14/49 Tshibangu

CLEARANCE CERTIFICATE

PROTOCOL NUMBER M050829

PROJECT

The Effects of Availability of Reproductive
Health on the Contraceptive Use and
Method Choice in the City of Twshane...

INVESTIGATORS

Dr DC Tshibangu

DEPARTMENT

School of Public Health

DATE CONSIDERED

05.08.26

DECISION OF THE COMMITTEE*

Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 05.11.15

CHAIRPERSON



(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor: Dr C Odimegwu

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and ONE COPY returned to the Secretary at Room 10005, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. I agree to a completion of a yearly progress report.

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

ABSTRACT

This study is the first of a series of community-based surveys that the City of Tshwane Metropolitan Municipality (CTMM) has planned to conduct in the next 15 years to fulfill its provincial mandate (being the provider of primary health care services) in accordance with the Gauteng District Health Services Act (Act No 8 of 2000)¹. The study determined the prevalence rate of contraceptive use and method choice, and the effects of the availability of reproductive health services on contraceptive use and method choice in the CTMM in 2004.

The study used a descriptive cross-sectional population-based study design and a sample of 3,547 women of childbearing age (15-49 years) using a multi-stage cluster sampling with probability proportional to size to determine these effects. A modified 1998 SADHS questionnaire helped to collect information on selected individuals, programmes and district explanatory variables from women living in the four health sub-districts and data were used in three B (4 variables), C (six variables) and D (eight variables) unconditional binary logistic regression models and a multinomial logistic model to estimate their effects (odds ratios and p-value at 5% level) on contraceptive use and method choice. The selection of these variables is based on the conceptual framework that recognizes that contraceptive use or method choice is the consequence of service utilization, which, in turn, is influenced by individual, service/programme and community factors^{2,3}. The availability of reproductive health services was measured by the presence or absence of the supply source of contraceptive methods in a district.

After controlling for the effects of individual (social and demographic) variables, none of the programmatic variables was independently associated with contraceptive use. By contrast, district/place of residence predictor was associated with reduced odds of contraceptive use and with reduced odds of condom, injection and IUD's choice against pill in all the models and districts, respectively. In terms of the source of first information on contraceptive methods and the differences between IUD and injection, the study shows that nurses (odds ratio, 1.80, $p<0.05$) are more likely than mothers to be the providers of information on IUD while physicians (odds ratio, 0.65, $p<0.05$) are shown to be less likely than mothers to be the providers of information on injection as opposed to the pill. The private sector (odds ratio, 2.12, $p<0.01$) is shown to be more likely than the public sector to be the supply source of IUD methods rather than the pill, and also more likely (odds ratio, 1.97, $p<0.01$) than the public sector to be the supply source of IUD instead of injection. Private pharmacies (odds ratio, 2.25, $p<0.05$) are more likely than the public sector to supply condoms rather than the pill.

The presence or absence of reproductive health services in a district was significantly associated with reduced odds of both contraceptive use and choice of condom, injection and IUD methods against pill. This may be attributable to women's willingness to travel outside their place of residence to get their preferred method. Thus availability of reproductive health services in the district seems not to have an important effect on use and choice of modern contraception in the City of Tshwane in 2004.

CHAPTER 1

GENERAL INTRODUCTION

1.1 BACKGROUND INFORMATION

The City of Tshwane Metropolitan Municipality (CTMM) is a new geographic municipal entity established in December 2000. It has a land area of about 2, 198 km² and an estimated population of about 1.7 million of which women represent 50% (881,309)⁴. Of this group of women, women of reproductive age (15-49 years of age) represent 57% (501,201)⁴. The municipal health service is comprised of four health sub-districts (Figure 1) and serves a population made up of different races (Black, Coloured, Indian and White), cultures, and qualities of life. Disease patterns seem to mimic the residential (population groups) and socioeconomic divide with tuberculosis, HIV/AIDS, malnutrition and upper and lower respiratory tract infections affecting the poor and jobless while coronary heart diseases affect mainly the affluent members of the CTMM⁵.

The newly restructured municipal health services intend not only to eliminate duplication and fragmentation but also to enhance effectiveness and efficiency of municipal services. They also aim at preparing the CTMM's health services for their new role as stipulated in the Gauteng District Health Services Act (Act No.8 of 2000), which states 'that the rendering of Primary Health Care (PHC) service in Gauteng is the responsibility of Local Government'¹.

Through a memorandum of agreement signed in 2003 between the CTMM and the School of Health Systems and Public Health (SHSPH) of the University of Pretoria, the City's health services were accredited to be the centre for the Monitoring and Evaluation (M&E) programme for post-graduate students. To fulfill this mandate, the CTMM needs reliable baseline data and the capacity and competence to utilize them, and none of these is currently available. The lack of community-based data prompted the CTMM to use the 1998 South African Demographic and Health Survey (SADHS)⁶ to plan its reproductive health services. Since 2002, repeated anecdotal observations relating to poor

contraceptive practices and the higher percentage of pregnant adolescents attending the antenatal clinics in Mamelodi have been made by health professionals. These observations were made against the background of routine reproductive health care services that paid increased attention to the effective management of pregnancy and the promotion of contraceptive use in all women^{7,8,9}.

1.2 PROBLEM STATEMENT

Two years after its restructuring the planning of reproductive health services is still demand-driven. This is the context in which unconfirmed observations about poor contraceptive practices and a high teenage pregnancy rate were made. It is argued that these observations are consistent with the persistent socioeconomic disadvantaged background of some health sub-districts as opposed to others, and also of the poor availability of reproductive health services in Tshwane in general. In the absence of hard data such anecdotal observations have the potential of diverting the allocation of the already limited resources to some untested priorities. The truth of the matter is, however, that little is known about the prevalence rate of contraceptive use or the sociodemographic characteristics of the reproductive health services target population (women aged 15-49 years) in the CTMM. Equally unknown is how available reproductive health services are and their impact in the City of Tshwane Metropolitan Municipality. This study aims at filling the existing information gap by examining the contraceptive use rate, method choice and the availability of reproductive health services and their impact. Indeed, it is a good public health practice to determine the reproductive health needs, sociodemographic characteristics and contraceptive practices of women of childbearing age in the CTMM.

1.3 JUSTIFICATION

The study is justifiable from Local Government, Gauteng Province Health legislation, CTMM's Health Care Division management, and research capacity and competence building viewpoints. Management by objectives makes not only good public health practice but is also a new legislative requirement for every municipality in the country. Indeed, section 25 of the Municipal Systems Act No 32 of 2000 (MSA)¹⁰ says 'that the

Integrated Development Plan (IDP) states out clearly its short and medium term objectives as well as the operational strategies to attain them.’

In its intention to devolve the delivery of primary health care services (PHCSs) to local government (municipalities) the Gauteng District Health Services Act¹ also stipulates that scientific methods (epidemiology, demography and monitoring and evaluation (M&E)) must be used to determine annual objectives. Failure to comply with these requirements may not only delay the allocation of provincial subsidies but may also involve disciplinary action against municipal managers in charge of these services. In their evaluation of the CTMM’s PHC services in 2003, postgraduate students from the School of Health Systems and Public Health (SHSPH) of the University of Pretoria strongly criticized the fact that a community-based information system was not available to assess the impact of reproductive health services. The availability of such information is likely to improve planning as well as competency to use the generated data in the CTMM.^{11,12,13,14,15}

1.4 STUDY OBJECTIVES

1. GENERAL

- To collect baseline information related to different components of reproductive health services offered by the CTMM for planning, delivering, monitoring and evaluating these services, their effects and their outcomes.

2. SPECIFIC

- To estimate the prevalence of contraceptive use and method choice in women aged 15-49 years;
- To assess the impact of the availability of the reproductive health services on the contraceptive use and method choice among women aged 15-49 in the CTMM.

3. RESEARCH QUESTIONS

- How common is contraceptive use and what is the method of choice in women aged 15-49 years in Tshwane in 2004?
- What impact do socioeconomic, demographic, service provision and community factors have on the likelihood of contraceptive use and method of choice in the CTMM?

1.5 LITERATURE REVIEW

1.5.1 CONTRACEPTIVE USE AND METHOD CHOICE

The CTMM does not have community-based reproductive health data specifically related to its jurisdictional territory to which it can refer, and as proxy it uses the 1998 SADHS findings to guide its policy. The 1998 South Africa Demographic and Health Survey (SADHS) is a nation-wide survey that involved about 17,500 people throughout all nine provinces of South Africa. Its findings indicate that nationally 61.2% and in Gauteng 60.9% of sexually active women use some contraceptive methods. The proportion of adolescent mothers who use contraception is 13.2% nationally and 8.9% in Gauteng, while those adolescents who have never been pregnant and use contraception are 16.4% nationally and 9.5% in Gauteng⁶. A recent study reported that 10.5% of sexually active women use a condom and therefore are dually protected against sexually transmitted infections (STIs) and pregnancy at the time of last intercourse, and that a sub group of these, 6.3% of all sexually active women, use two methods¹⁶. Poor contraceptive practices and adolescent pregnancy impact negatively on the number of adolescent dropouts from schools and over-burden the already over-stretched household financial resources in order to cope with the infants' and young mothers' health care needs^{17,18}.

Contraceptive use, as a proximate determinant of fertility, plays an important role in reducing fertility; and at times the contraceptive prevalence rate (CPR) has been used to assess the impact of reproductive health programmes^{12,19}. Adolescent pregnancy also perpetuates the vicious cycle of poor health, high fertility and poverty in the society^{13,14,17,18}. Many other studies indicate that socio-demographic factors exercise important independent effects on the likelihood of a woman's current use of modern contraceptives and that contraceptive use increased with age and parity among both rural and urban women^{11,20}.

Magnani et al (1995) report that a good quality and available reproductive health programme, when integrated with maternal and child health programmes, increased contraceptive use in Morocco²¹. Other studies show a significant relationship between method of choice and quality of reproductive health services and between method-mix and the fertility impact of contraceptive use. The same studies provide dual rationale for

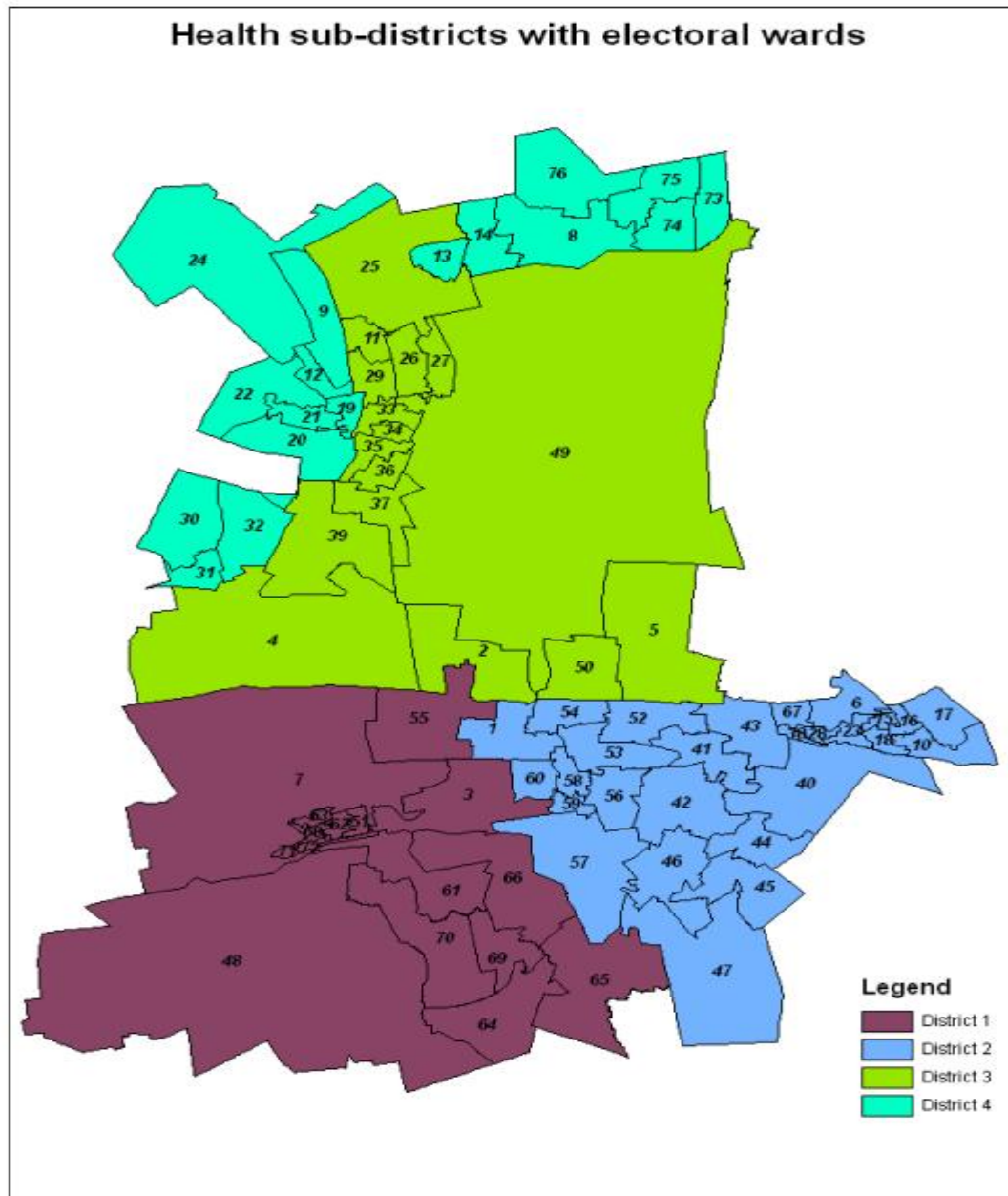
analysis of method choice and indicate that service availability, quality and community context significantly affect contraceptive use and method choice^{11,12,13,19,20,21,22,23,24}.

1.5.2 IDENTIFIED GAP

As contraceptive use increases and becomes a well established behaviour, prevalence rate alone is no longer a sufficient marker of programme success¹⁹. Since high or low levels of contraceptive use and method choice, outside of permanent method use, rely on the availability of reproductive health outlets and extended practice of contraception, it becomes important to investigate the influence of socioeconomic, demographic, programmatic and community factors on the contraceptive use and method choice in Tshwane. These factors' effects are likely to reveal much, not only about personal motivations brought about to bear in regulating fertility and method choice, but also about the adequacy of services provided^{3,19}. Almost five years in the new dispensation, the CTMM still uses the 1998 SADHS Gauteng results to plan its reproductive health services. Still little is known about the sociodemographic characteristics of the women of childbearing age and the actual impact of these services. Although the abovementioned studies help to advance our general knowledge and understanding of the potential factors likely to impact on the contraceptive use, choice and pregnancy outcome, none of their findings is directly applicable to the CTMM's environment without 'adjustment'; nor are the findings helpful in setting up realistic and specific reproductive health objectives for Tshwane.

This study intends not only to collect the baseline information on reproductive health and build Research and Monitoring & Evaluation capacity but also to examine the effects of individual (socio-demographic), programmatic and community level factors and to help our understanding of the sources of variations in contraceptive use, behaviour and method choice in the CTMM.

Figure 1*



(*): **Source:** Research & Development Unit of the Health Care Division and, Urban Research and Strategic Direction, City Planning Division, the CTMM, 2004.

CHAPTER 2

METHODOLOGY

2.1 STUDY DESIGN AND POPULATION

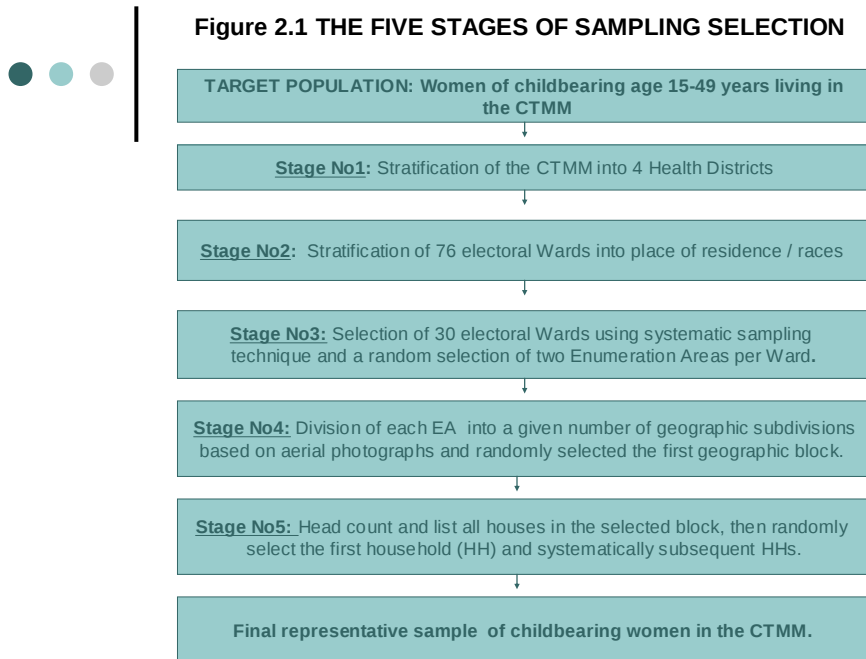
The study design is a descriptive cross-sectional population-based study with a population of all women of childbearing age (15-49 years) living in the 4 health sub-districts in the CTMM in 2004. The study sample was drawn using multi-stage cluster sampling with probability proportionate to size (PPS)²⁵.

2.2 SAMPLE SIZE OF STUDY

The sample size of the study was determined using the statistical package **nQuery Advisor** version 4.0²⁶ developed by Elashoff (2000) using a 5% level of significance, a 62% proportion of contraceptive use among women with ages 15 to 49 years, a power of 80% and N = 501, 201 (the total number of women aged between 15 and 49 years living in the CTMM). A 20% adjustment was made. The final sample size of study was 3, 648 women between the ages of 15 and 49 years and out of which 3, 547 women (a 97% response rate) were finally interviewed. A multi-stage cluster random sample of 887 women was drawn from each of the 4 health sub-districts constituting the CTMM. Blacks accounted for 64.7%, Whites for 30.1%, and Indian and Coloured women for 5.2% of the sample. Eligible households and women were selected using multistage cluster sampling using a sampling frame obtained from Statistics South Africa. Interviews and data collection were conducted by employees of Social Data Collectors cc.

2.3 DESCRIPTION OF SAMPLE SELECTION

Statistics South Africa provided a list of all 76 electoral wards in the CTMM used in the 2000 municipal elections. These were used to work out the study design and the selection of the study population. The study uses a stratified multi-stage cluster sampling design with probability proportionate to size²⁵ (Figure 2.1).



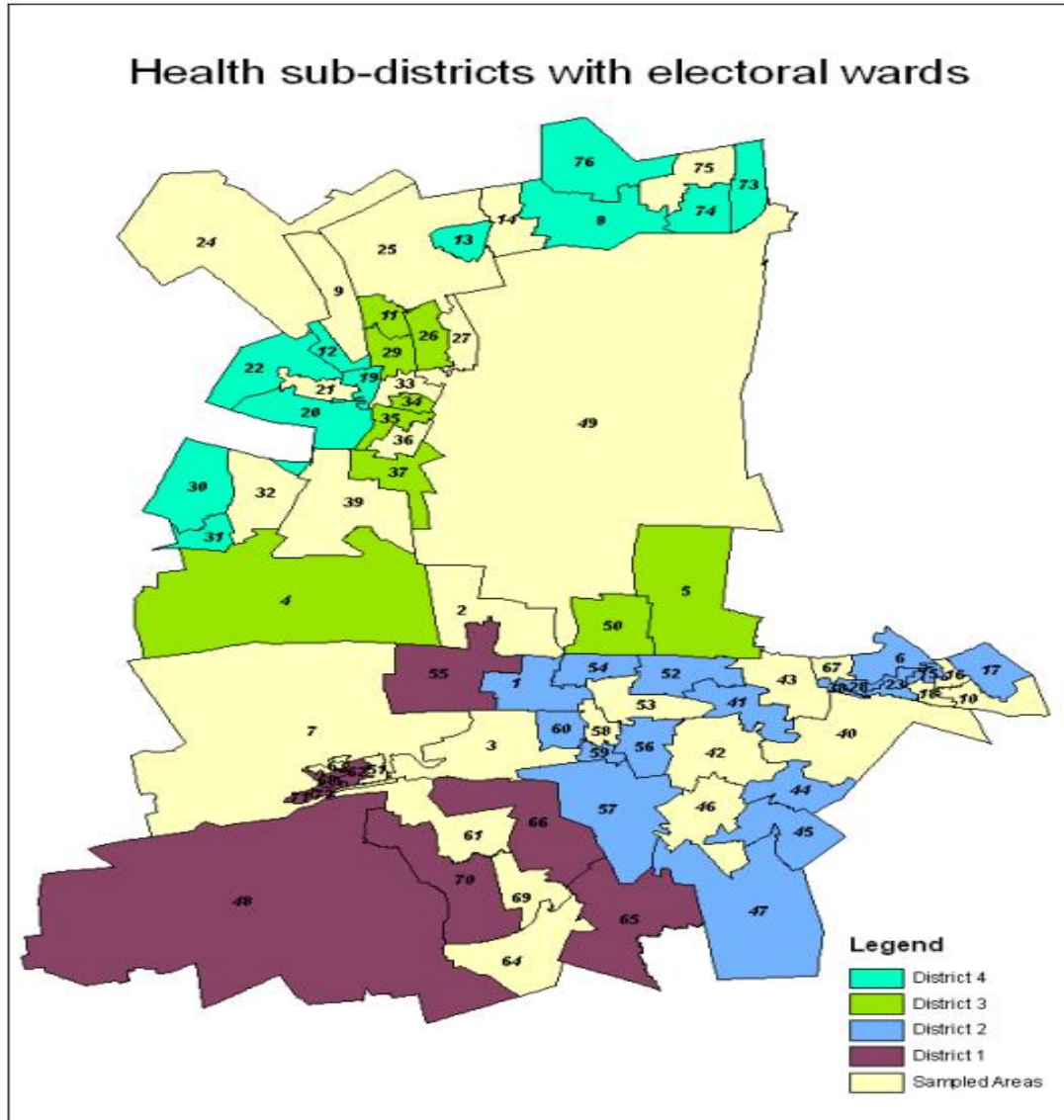
The first stage involves the stratification of the CTMM into four health sub-districts.

The second stage includes stratification of electoral wards into place of residence (four South African population groups).

The third stage involves selecting 30 electoral wards with probability proportionate to the size. A sampling interval (k) was determined for 30 clusters by choosing a random number between one and k that identifies the first ward. Subsequent wards were then systematically selected using $I, I+k, I+2k \dots I+30k$. The City Planning provided the study with a list of enumeration areas (EAs) for each selected ward and two enumeration areas per ward were randomly selected using a simple sampling procedure. This brought the total number of clusters to 60 (Figure 2.2: in yellow).

The fourth stage includes the selection of geographic subdivisions within each selected EA using aerial photographs. This was obtained by dividing each EA into a number of geographical subdivisions of possibly equal population size. Each subdivision was then numbered from 1 to the highest number in that subdivision. A number between these two was randomly picked and it identified the subdivision in which the initial household would be located.

Figure 2.2 : Health sub-districts map with sampled areas



The fifth and last stage includes the selection of all the households to be visited in the identified subdivision: a fieldworker counted and listed all the households and randomly selected the first household among them. Subsequent households were then systematically selected until thirty-four [expected sample size $N=3036$ in 60 Enumeration Areas or $3036/60=51$ women/EA and since about 1.5 women aged 15-49 years are expected to be found in each household ($51/1.5$)] households were visited and all eligible women in the selected households were interviewed.

2.4 INCLUSION AND EXCLUSION CRITERIA

All women aged between 15 and 49 years and living in the CTMM were included in the study while all women aged below 15 or above 49 years, and women severely mentally challenged (severe mental retardation and/or other severe psychiatric disorders), were excluded from the study.

2.5 ETHICS APPROVAL

Ethics approval was obtained from both the Research Ethics Committee of the CTMM and the Human Research Ethics Committee (Medical) of the University of the Witwatersrand. All participants took part in the study voluntarily, and a full explanation of the study purpose was provided to each participant. Informed consent was obtained from each participant (Appendix) and all collected information was kept confidential.

2.6 QUESTIONNAIRE OF THE STUDY

The study used a modified 1998 SADHS questionnaire (Appendix). The use of such a questionnaire intended not only to contribute to the much needed information on specific aspects of the reproductive health activities and health status in the CTMM but also to the comparability of data with other countries/regions where similar studies had been carried out. The questionnaire was developed in English and then, translated into Afrikaans, Setswana and isiZulu. To check the validity of the translations, arrangements were made with the Council Marketing Department for an independent translation of Afrikaans, Setswana and isiZulu questionnaires back into English. The questionnaire was then pre-tested by a team of trained interviewers in two different settings outside of the study area.

2.7 PILOT STUDY

The pilot study was carried out during the 2-day training session for interviewers and field supervisors. It included the testing of questionnaire sensitivity in all four languages and the respondents' understanding of the questions as well as discomfort possibly caused by some questions. This exercise prompted the inclusion of representatives from each major racial subgroup in the team for field work. The pre-testing provided an opportunity to check on the survey team and study plan using areas and subjects outside the study areas. The findings helped to fine-tune the protocol questionnaire, and also

indicated the optimum time of the day and week to conduct the survey so that repeated calls at households were minimized.

2.8 TRAINING OF FIELD WORKERS, SUPERVISION AND ORGANIZATION

Two-day training activities were carried out by the CTMM. A short field guide was compiled for field staff. Both the field staff and supervisors were trained in the various aspects of the study operations so that they acquainted themselves well with the questionnaire and its effective administration. Each field worker, field editor or supervisor was expected to complete, successfully, at least five questionnaires and other study tools during training. The training session covered an overview of the reproductive health services, an introduction to field procedures and the questionnaire, as well as a review of good interviewing techniques and the conducting of an actual field pilot interview in the non-sample areas. The fieldwork involved identifying the selected city blocks (EAs), and within each block identifying selected households, and within the selected households, identifying and interviewing all eligible women. The City Planning Department provided aerial photography for each sampled EA for the identification and counting of the households. If a respondent was not available at first visit, two subsequent visits were made to interview the eligible women in the household. The actual fieldwork commenced simultaneously in all four sub-districts and ended fifteen to twenty days later. During the fieldwork period all supervisors were readily available to meet any need that arose among the interviewers under their responsibility.

The study budget envisaged recruiting and training 23 fieldworkers, 4 field editors, 2 supervisors, and one overall field manager. Each fieldworker or interviewer was expected to conduct 9 interviews a day resulting in a total of 207 questionnaires per day for the whole study. Quality control was carried out at two levels (in the field and central office). Before the questionnaires were submitted for further processing each field editor ensured that all her questionnaires were properly and thoroughly completed.

Incomplete questionnaires were returned for proper completion. Field editors were requested to re-interview about 10 percent of the area weekly sample (about 7 respondents a week) to check on the quality of the interviewers' work, and also to spot-check the selection of respondents by crosschecking the selected households and the eligibility of the women. Each sampling area's completed questionnaires were submitted

to the supervisors on a daily basis for an immediate editing before data capturing by the central office. The central office registered and edited the questionnaire for a second time to identify any undetected errors or inconsistencies. If any errors or inconsistencies were found, callbacks were scheduled to rectify them.

2.9 LIMITATIONS

There are several limitations to this study. Firstly, the findings may be difficult to extrapolate to other municipalities but the experience may provide an excellent research capacity and skills building for primary health care services at the municipal level.

Secondly, the way availability of reproductive health services was measured may limit comparison with other similar studies. Some studies have distinguished between the terms ‘availability’ (to describe whether a particular method or service is provided) and ‘accessibility’ (to denote a continuum of effort required to obtain services)³. This study uses both terms interchangeably and they were measured as percentages of the population that know of at least one source of contraceptive service and/or supply. The use of such proxies measures not only the physical/geographical dimension of the variable irrespective of whether such a facility provides a full range of family planning methods or the quality of the services offered; also it does not consider the economic or/and psychological dimensions of this measurement. The lack of sensitivity where these variables are concerned may also explain their poor performance in the binary logistic regression model.

Thirdly, the supply of IUD and sterilization methods by some private pharmacies in Tshwane demands some explanations. Indeed, as early as 1996, the then Health Services Department of the City Council of Pretoria signed a memorandum of agreement (MOA)* with few local pharmacies that were willing to render family planning services on behalf of the Council to clients with medical aid and to those who could afford paying. The rationale behind this MOA was to improve the effectiveness and efficiency of reproductive health services, to reduce the waiting time for clients at the public health facilities and to increase and sustain the quality of service. For that purpose the Council committed itself to train and update the knowledge and skills of these private providers. It also agreed to regularly supply the contracted pharmacies with contraceptive methods free of charge. In turn, pharmacies agreed to submit statistics on a quarterly basis on

family planning services to the Council. By 1998, most of these pharmacies provided a full scale reproductive health clinic on their premises with the assistance of a contracted out physician/gynecologist. This explains the reasons why procedures such as IUD insertion or female sterilization appear under the variable 'private pharmacies' in this study.

Fourthly, fieldworkers and supervisors may not have performed as expected. For instance, they would not interview all eligible women in a house with more than five participants. This possibility was reduced by pre-establishing a list of eligible women in each house and by a 10% random check of the completed questionnaires by both the field supervisor and the field editor. In the households where different generations of women cohabit, younger women are likely to be under indirect pressure to provide

(*) Health Services Department: Policy document on Immunization and Family Planning and the Memorandum of Agreement with Private Pharmacies by the Medical Officer of Health. The City Council of Pretoria, 1996.

'culturally or traditionally correct answers' to some of the study questions to please the elderly. This situation was taken care of by conducting one-on-one interviews in an isolated corner of the house or in the room of one of the respondents as per pre-arrangements with the head of the household. Emphasis was put on the strictly confidential nature of each respondent's answers to any study questions. It is also likely that the manner in which study questions were defined and then administered could reduce the validity and reliability of the findings. These challenging aspects were dealt with during the two day training workshop for interviewers and field supervisors. The workshop provided an opportunity to test both the respondents' understanding and possible discomfort relating to certain questions and the interviewers' ability to use a standardized approach in administering them. Field supervisors were requested to 'sit-in' in at least the first two interviews of each interviewer, under their supervision, to monitor the qualitative aspects of the interview bring possible corrections. This was either randomly performed or when the need arose due to a field observation.

Fifthly, the study faced resistance or refusal from some women. This was reduced by a clear-cut explanation in terms of the purpose, confidentiality of information and the procedure used to select respondents. If the respondent refused to participate, the fieldworker would not insist because the responses obtained under such circumstances

would not be reliable. Proper and rigorous selection criteria were necessary. Close follow-up of the data collection processes by the research team was essential. The completed questionnaire was reviewed daily and on the spot (in the field). Daily feedback from the fieldworkers and supervisors was an important management tool for a successful research proposal implementation.

Sixthly and lastly, several attempts to obtain the enumeration area population figures and other relevant characteristics from Statistics South Africa remained unsuccessful. The non-availability of such information not only limited the sampling procedure but might also have reduced the reliability of the study findings. Since the study population was all women and sensitive personal questions were likely to be asked, and to minimize the refusal rate, all fieldworkers were females of different population groups.

2.10 EXPLANATORY AND OUTCOME STUDY VARIABLES

The study's three level explanatory variables and their definitions (Table 2) include individual level variables, which mainly provide demographic and socioeconomic background characteristics of each respondent, programme level variables that indicate the different types (public and private) of facilities and providers involved in the provision of reproductive health services, community level variables describing a respondent's area of residence.

The study uses two dependent variables and they refer to contraceptive use (dichotomous) related to the question: 'Are you currently using some family planning method or doing something to delay or avoid pregnancy?', and to method choice (polytomous) referring to the following five modern contraceptive methods (condoms, injection, IUD, the pill and sterilization) prompted by the question: 'What methods are you using now?'

2.10.1 DESCRIPTION OF KEY VARIABLES

The study's primary interest is to assess the magnitude and statistical significance of the regression parameters of programme variables included in the fitted regression models. These variables indicate the strength of association between programme measures and individual outcomes (contraceptive use and method choice/method mix) when the effects of other factors included in the models have been controlled.

- The outcome variable “avoid” provides the percent of women of reproductive age who are using (or whose partner is using) a contraceptive method and includes all contraceptive methods (modern and traditional). This variable will help to calculate the contraceptive prevalence rate (CPR), which measures the population coverage of Contraceptive use, taking into account all sources of supply and all contraceptive methods.
- The outcome variable method choice/method mix³ refers to number of users by method and it provides a profile of the relative level of use of different contraceptive methods. In this study, method mix includes only programme methods also referred to as “modern methods” routinely found in the national reproductive health programme delivering family planning services.
- The source of supply by method³ defines the percent distribution of the types of service-delivery points cited by users as the source of their current contraceptive method. It indicates where contraceptive users obtain their supplies and thus allows programmes to evaluate their effectiveness and to forecast procurements needs. Usually, source of supply yields two types of information: type of facility and type of sector (public/private). The type of facility includes hospital, health center, family planning clinic, mobile clinic, pharmacy and private doctor, among others. Sector distinguishes between governmental (public) institutions and privately owned institutions that include private physicians, private nurse practitioners, family planning NGOs and other private providers. This study purposely separates private pharmacies from the private sector category because of the special relationship/memorandum of agreement signed between the City of Tshwane and many of these pharmacies as far as the delivery of family planning services are concerned. Such a classification would yield the percentage of contraceptive use attributable to the government programme, the private sector and private pharmacies as the relevant sources of supply.
- Source of first information on family planning refers to a single individual provider (being a human or an institutional individual) who supplied the respondent with information on contraception for the first time. The collection of such data would allow programmes to optimize their information, education and communication (IEC) activities

through proper targeting of the relevant information providers who may be mother, sister, father, relative, friend, teacher, nurse, physician, TV/radio and magazine/leaflet.

- The inclusion of students within the working status variable was dictated by the City of Tshwane special set-up with its numerous tertiary institutions on its territory. Whether or not a woman is working, having a sexual partner at the time of the survey and living together with that partner is included in the analysis.

2.11 HYPOTHESES The study used Logistic Regression Model to test H_0 : No association between explanatory variables (individual, programme and community) and outcome variable ‘avoid’; and ‘modern’.

2.12 DATA PROCESSING AND MANAGEMENT Information was collected from all eligible women in selected households in all four sub-districts of the study. To improve the interpretation of the findings some original variables were grouped or transformed. For example, age was grouped into three categories of 15-24, 25-34 and 35-49. Grade in education was grouped as follows: 0 < one year completed/no education, 1= primary education, 2= secondary education and 3= post-secondary education. Variable ‘method now’, which denotes the type of contraceptive method a respondent was using at the time of the survey, was transformed into two variables: ‘contraceptive’ describing three categories of contraceptive methods: ‘no methods’, ‘modern methods’ and ‘traditional methods’; and the second variable ‘modern’ describing the different types of modern contraceptive methods used in multinomial analysis. All completed questionnaires were verified, edited, cleaned, captured and analyzed using STATA 8.0 software²⁷. To increase accuracy, all data were re-entered and verified by an independent team of data capturers. A small number of incomplete questionnaires required a second visit to a few households for verification and completeness. A list of discrete and continuous variables and their levels was provided.

2.13 STATISTICAL METHODS OF DATA ANALYSIS Three statistical levels of analysis that include univariate, bivariate and multivariate analysis were used:

2.13.1 The first or univariate level describes and summarizes all discrete and interval scale variables relating to the respondent's demographic and socioeconomic background characteristics, respectively. At this level discrete data are presented either in simple frequency tables, bar and/or pie charts while interval scale or continuous variables are summarized in a tabulation format and in histograms.

2.13.2 The second or bivariate level was used to explore the relationship between two variables, independent (explanatory) and dependent (outcome) variables. Pearson's chi-square tests of association were used to produce cross-tabulated results among a few interesting variables related to 'avoid', contraceptive use, and 'modern', choice of a modern contraceptive method. The Pearson chi-square test of association was also used for the screening of discrete variables and this screening procedure led to the selection of 8 discrete variables from a total of 12 discrete variables. The presence of a significant association with the outcome variable 'avoid' ($P < 0.05$), the absence of expected cell frequencies less than 5 and relevance to the study were the selection criteria for variable inclusion into the study.

2.13.3 The third and last or multivariate level involved the fitting of binary and multinomial logistic regression models using variables that fulfilled the selection criteria defined in the bivariate level. Indeed, the study uses cross-sectional logistic regression models to assess the effects of availability of reproductive health service outlets on the likelihood of contraceptive use and method choice in the CTMM in 2004^{11,19,20,21,22,23,24,28,29} and tests the null hypothesis of no association among explanatory variables and discrete outcome variables such as 'avoid' (contraceptive use) and 'modern' (type of contraceptive used) at the individual level, programme level and community level. The stepwise backward elimination technique proposed by Kleinbaum and Klein³⁰ (2002) to obtain the 'best model' was used in the analysis of binary logistic regression. The mathematical expression for the basic cross-sectional multi-level unconditional binary logistic regression model for data analysis is given by the following equation:

$$Y_{ij} = \alpha + \beta P_i + \delta Z_i + \psi X_{ij} + \gamma W_{ij} + \mu_i + e_{ij} \text{ Where;} \quad (1)$$

$Y_{ij} = 1$ if a modern contraceptive method is used, and 0 otherwise.

P_i = programme-level variables measuring programme strength in community i

Z_i = community-level variables in community i

X_{ij} = observed individual level variables in the i^{th} community from the j^{th} individual that affect the outcome variable of study (contraceptive use)

W_{ij} = interaction terms between community and individuals

μ_i = unobserved community level random variables

ϵ_{ij} = unobserved individual heterogeneity

$\alpha, \beta, \delta, \psi, \gamma$ = parameters to be estimated

The multilevel multinomial logistic regression model used for analyzing the relationship between ‘modern’ (method choice) and several explanatory variables that affect that choice, while taking into account individual, community and programme level characteristics is given by the equation:

$$\ln \left\| \frac{P(C_{ij} = k)}{P(C_{ij} = l)} \right\| = \beta P_i + \delta Z_i + \psi X_{ij} + \mu_i + \epsilon_{ij} \quad (2)$$

The dependent variable in (2) is the log odds that woman i ($i = 1, 2, \dots, n_j$) living in community j uses contraceptive method k relative to contraceptive method l . The variables X_{ij} , P_i , Z_i and μ_i and ϵ_{ij} are defined as shown above in (1).

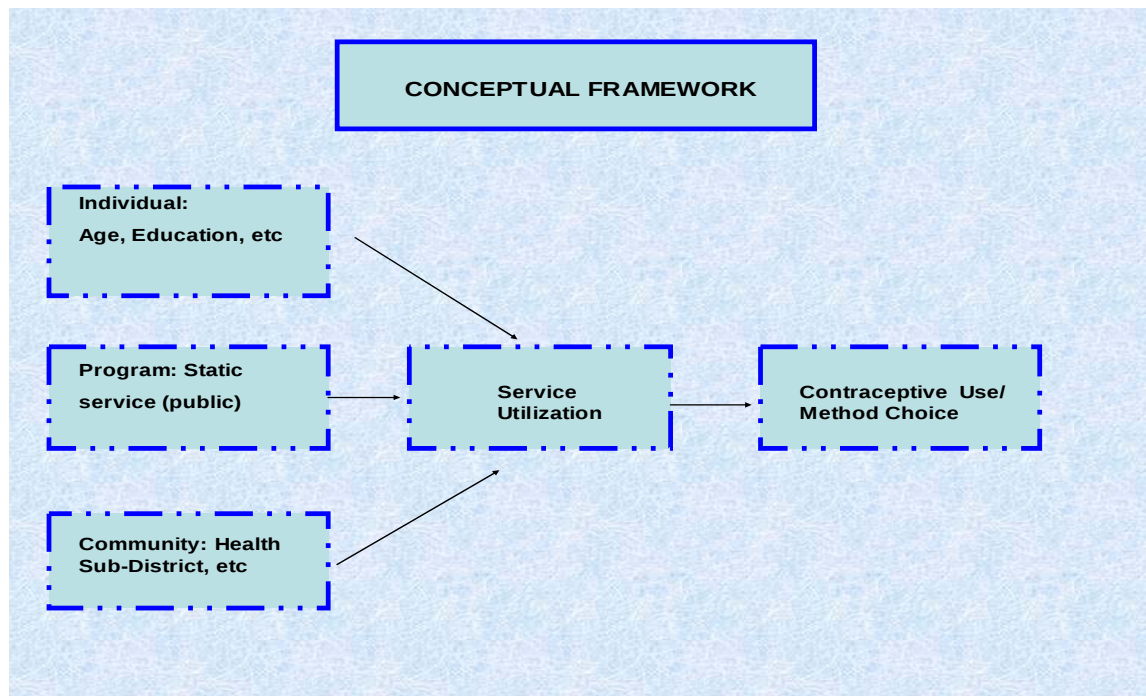
The data to be used consist of observations on twelve explanatory variables for 3547 women aged 15-49 years who were living in the CTMM in June 2004 (Table 2) according to the conceptual framework presented in Figure 2.3².

Indeed, this framework^{2,3} recognizes that contraceptive use or method of choice is the consequence of service utilization, which, in turn, is influenced by individual or household service or programme and community factors. Figure 2.3 shows the three level explanatory variables needed to evaluate the impact of the availability of reproductive health services on the outcome variables.

Table 2 STUDY VARIABLES AND THEIR DEFINITIONS

Variable	Definition
	Individual or Socio-demographic level
Age	Current age of respondent in years
Grade	The highest grade of education passed by the respondent: No education (or < 1y) =00; Primary education: <= six years; Secondary education: <=12 years; Post-secondary: > 12 years
Marital status	Never married=0; Married=1; Living together=2; Divorced=3; Separated=4; Widowed=4
Payment	Whether in the past 12 months the respondent has done any work for which she was paid in cash or in kind: 0=Student; 1= Yes; 2= No
Birth ever	Whether the respondent has ever had a live birth: 1 = Yes; 0 = No
Pregnant ever	Whether the respondent has ever been pregnant: 1 = Yes; 0 = No
Children	Total # of children given birth to by the respondent and who are still alive
Partner now	Whether the respondent has currently a partner: 1 = Yes; 0 = No
Partner live	Whether the respondent currently lives with her partner: 1 = Yes; 0 = No
Program Level Variables	
Supply source of Contraceptive	Sources likely to supply contraceptive methods in Tshwane: Public sector= 1; Private sector = 2; Private Pharmacies= 3
F. Pl. Information source	The first source that provided the respondent with : information relative to contraception: Mother=1; Sister=2; Father=3; Relative=4; Friend=5; Teacher=6; Nurse=7; Physician=8; Leaflet/Magazine=9; Radio/TV=10.
Community Level variables	
District	Refers to the Health Sub-District or respondent's place of residence: District1= Western Central area; District2= Eastern area; District3= North Eastern area; District4= North Western area.
OUTCOME/DEPENDENT VARIABLES	
Avoid	Whether respondent is currently using some contraceptive methods to delay or avoid pregnancy: 1 = Yes; 0 = No
Method choice	Refers to the five modern contraceptive methods from which to choose: 1 = Condom; 2 = injection; 3 = IUD; 4 = Pill; 5 = Sterilization

Figure 2.3 Conceptual framework^{2} of availability of reproductive health service.**



(2**): Source: Adapted from Monitoring and Evaluation of Population, Health and Nutrition Programs; June 15 – July 2, 2004. Summer Institute Johns Hopkins Bloomberg – School of Public Health, Baltimore, MD.

CHAPTER 3

RESULTS OF STUDY

3.1 GENERAL INFORMATION (HOUSEHOLD COMPOSITION)

The study consists of a total of 8,497 persons of all ages and both sexes living in 2, 075 households located in four health sub-districts in Tshwane. Women of childbearing age represent 65.3 percent of all women or an average of 1.8 women aged 15-49 years per household.

Table 3.1 Description of the sampled households, Tshwane 2004

District	Number Households	Age-group	Sex		Total
District 1	383	< 15 years 15-49 years > 49 years	Male	Female	818
			236	582	
			396	902	
			36	82	
		Sub-total	668	1566	2234
Average number of women of childbearing age per HH				2.4	
District 2	594	< 15 years 15-49 years > 49 years	252	574	826
			507	916	1423
			119	98	217
			Sub-total	878	1588
		Average number of women of childbearing age per HH			
District 3	607	< 15 years 15-49 years > 49 years	270	213	483
			331	919	1250
			117	90	207
			Sub-total	718	1222
		Average number of women of childbearing age per HH			
District 4	448	< 15 years 15-49 years > 49 years	259	204	663
			302	911	1213
			86	95	181
			Sub-total	647	1210
		Average number of women of childbearing age per HH			
Total	2032		2911	5586	8497
Average	Person/Household	4.1	1.4	2.7	

The average number of women of childbearing age per household varies from 2.4 women in district 1, to 2.0 women in district 4, to 1.5 women in districts 2 and 3, respectively; the average number of persons per household is 4.1 persons or 1.4 males and 2.7 females respectively. The household composition breakdown is shown in Table 3.1.

3.2 STUDY POPULATION

Reproductive health service is the study's main focus area of interest and women of reproductive age (15-49 years) are the study target population. Table 3.2 shows the percent distribution of eligible women (15-49 years) in Tshwane in 2004 by their social and demographic characteristics. Out of these 3, 648 eligible women, 3, 547 or 97% participated in the study and 101 or 3% either refused to take part or did not avail themselves during the survey period as initially agreed upon.

The reasons for not taking part in the study ranged from 'research fatigue' without any tangible benefits to the participants – 57 possible respondents (1.6%); to absent from the household during the survey period – 14 possible respondents (0.4%); and to 'no reasons given' - 30 possible respondents (0.8%). Table 3.2 shows that the final study population was composed of 3, 547 women of reproductive age, evenly distributed in four health sub-districts of about 887 women each.

The mean and median ages of the sample were 29 and 28 years, respectively. About 34 percent of study populations were younger than 25 years old, 40 percent were in the 25-34 age group, and the remaining 25 percent were within the 35-49 age group. Never married respondents represented about 42 percent of the sample and widows accounted for about 3 percent. About 2 percent of the 3, 547 respondents had no formal education while 63 percent and about 9 percent had secondary and post-secondary education, respectively. Related to occupation, students accounted for 28 percent while women who were not working accounted for almost 46 percent of participants. Fifty-three percent of women had two or more children alive while 21 percent had no living child.

Table 3.2 Percent Distribution of Respondents by the Social and Demographic Characteristics, Tshwane 2004.

Characteristic	Frequency	Percent
	3547	100
Age-group		
15-24 years	1218	34.4
25-34 years	1427	40.2
35-49 years	902	25.4
Mean	29 years	
Median age	28 years	
Marital status		
Married	1246	35.1
Living together	404	11.4
Divorced	154	4.3
Separated	169	4.8
Widowed	97	2.7
Never married	1477	41.7
Education		
No education	69	1.9
Primary education	924	26.1
Secondary education	2249	63.4
Post-secondary education	305	8.6
District		
District 1	886	24.9
District 2	887	25.0
District 3	887	25.0
District 4	887	25.0
Payment		
Student	983	27.7
Working	939	26.5
Not working	1625	45.8
Number of living children		
None	730	20.6
One child	937	26.4
Two children and more	1880	53.0

3.3 PREVALENCE OF CONTRACEPTIVE USE

The specific study objective consists of estimating the prevalence of any contraceptive method use and method choice in women aged 15-49 years in the City of Tshwane Metropolitan Municipality in 2004. The study considered the use of both modern and traditional contraceptive methods. Traditional methods comprised withdrawal, rhythm and periodic abstinence, and modern methods included the pill, condom, injection, IUD, vaginal methods, and female and male sterilizations. Of the 3, 547 study women, 550

(15.5%) stated that they were not yet sexually active and were no longer considered for further analysis in this study, 1, 799 (50.7%) were using some contraceptive methods, and the remaining 1, 198 (33.8%) reported not using anything to delay or avoid pregnancy (Table 3.3). When asked if they were satisfied with the current method, 1, 557 (almost 87%) out of 1, 799 users stated that they were satisfied with the current method and only 242 (13%) preferred to use some other methods. About 16 (7%) out of these 242 users wanting to switch methods were using a traditional method (abstinence). Among users, injection accounts for 52.1%, the pill for 16.9%, condoms for 13.1%, sterilization for 8.8% and IUD for 7.3% and traditional methods (periodic abstinence and withdrawal) account for less than two percent (Table 3.4). When excluding the not-yet-sexually-active group from the analysis, we obtain a total of 2, 997 sexually active respondents with the following breakdown: non-users (1, 198 or 40%), modern contraceptive users (1, 767 or 59%) and traditional method users (32 or 1.0%). The distribution of users in Table 3.5 shows that about 20% of respondents were 15-24 years old, 47% were 25-34 years old and 33% were aged 35-49 years. Women with secondary education had the highest percentage (63%), followed by primary and post-secondary educated respondents, while the lowest percentage was seen among women with no formal education. Table 3.5 also indicates that about 43% of married and 29% of never married respondents used any contraceptive methods. About 30% of users were living in districts 2 and 3, respectively, followed by district 1. The lowest percentage (17%) was observed in district 4.

Table 3.3 Percent distribution of sexually active contraceptive users, not active and women using no methods, Tshwane 2004.

Categories	Percent	Frequency
	100%	3547
Active	50.7	1799
Not Active	15.5	550
Using no methods	33.8	1198

More than half of users were not working at the time of the survey while 15% were students at different secondary and tertiary institutions in and around the City of Tshwane. Table 3.6 shows that almost 60% of users were living together with their partners while 40% were not. The majority (50%) of users had two or more living

children while women with one and no living child accounted for 27% and 23% respectively.

Table 3.4 Percent distribution of sexually active users of all types of contraceptive methods, Tshwane 2004.

All methods	Percent	Frequency
	100%	1799
Condom	13.1	235
Pill	16.9	304
Injection	52.1	937
IUD	7.3	133
Sterilization	8.8	158
Abstinence	1.7	30
Withdrawal	0.1	2

Nurses (28%), followed by mothers (19%) and physicians (17%) were the three most prevalent sources of first information on contraceptive methods while family relatives (3%) was the lowest.

The public health sector was the main supply source of modern contraceptive methods with 76%. The private health sector came second with only 17% and private pharmacy was the lowest source (7%). Table 3.7 provides non-users' reasons for not using any contraceptives. Among the reasons given, the desire to have a child accounts for 20 percent while fear of side effects accounts for another 8 percent. Breastfeeding and being pregnant now account for 11 percent and 7 percent respectively, while husband's disapproval, health and religion-related reasons account for 13 percent, 14 percent and 5 percent of the reasons for non-use respectively.

If one combines 'no sexual partner now and partner in prison' reasons into 'a single perceived low/no risk of pregnancy' reason, the new reason accounts for about 6 percent of the reasons for non-use. From the service providers' viewpoint individual reasons such as 'fear of side effects, need for more information and not interested in contraception', which altogether account for about 25 percent of the reasons for non-use, offer an opportunity to sharpen and step up their reproductive health education programme. Table 3.8 shows the reasons for not using the preferred method and the main reasons are dislike of the method (34%), husbands'/partners' disapproval of the method (14%), no reasons given (13%) and non availability of the method at the health facility (10%). The paradox

related to the disliking of the preferred method could be traced to the perceived inconveniency of the daily intake (for pill) and the uncontrolled delay in the resumption of menstruations when ready to start family (for injection).

Other reasons for using a method other than the one preferred include health reasons (10%), fear of side effects (10%) and lack of information about the method (9%).

The second study objective examines the distribution of method choice categories. The percentage distribution of respondents who used any contraceptive methods by demographic, community, individual and programmatic background characteristics are shown in Tables 3.9 and 3.10. These tables describe the study findings related to method choice. The pattern of choosing methods differed from age-group to age-group. Choice of condom decreases with age from 53% among 15-24 respondents to 8% among 35-49 respondents. It was less than one percent for women with no formal education and the highest (65%) among secondary educated women. Condom was highest among never married respondents with 64% and lowest (less than 1%) among widows. Both unemployed women and students showed a high condom use with 41% and 40%, respectively. The highest condom choice was seen in district 1, followed by district 4 and district 3 while district 2 showed the lowest with 17%. Eighteen percent of respondents who lived with their partners chose condoms while 82% of respondents who did not live with their partners also did.

Among women with two or more living children condoms was a method of choice for only 16% while it was a method of choice for about 40% of respondents with one living child and 44% among women with no living child. The public health sector (71%), followed by the private health sector (17%) was the main supplier of condoms.

Choice of injection was the highest (57%) among women aged 25-34 years, followed by 35-49 and 15-24 years old respondents, respectively. It was also the most selected method among secondary educated women (65%) and the least selected among women with no formal education. About 48% of married women, 23% of never married women and 15% of women living together with their partners selected injection as their method choice. One percent was the lowest and was seen among widows.

Table 3.5 Percent Distribution of Respondents who used and did not use any contraception by demographic and community characteristics, Tshwane 2004.

Characteristics	Users N=1799	Not Users N=1198	Total 2997
Age-group			
15-24	20.4	25.9	22.5
25-34	46.9	48.4	47.5
35-49	32.7	25.7	30
Pearson chi2 (2) = 21.9735 Pr = 0.000			
Education			
No education	2.7	1.6	2.3
Primary education	24.3	30.4	26.7
Secondary education	63.2	58.2	61.2
Post-secondary education	9.8	9.8	9.8
Pearson chi2 (3) = 17.1542 Pr = 0.001			
Marital status			
Married	42.9	39.6	41.6
Living together	13	14.1	13.5
Divorced	5.2	5.1	5.1
Separated	5	6.6	5.6
Widowed	4.6	1.2	3.2
Never married	29.3	33.4	30.9
Pearson chi2 (5) = 35.8685 Pr = 0.000			
Payment			
Student	14.9	20.2	17
Working	31.4	29.2	30.5
Not working	53.7	50.6	52.5
Pearson chi2 (2) = 14.3348 Pr = 0.001			
District			
District 1	23	31.9	26.6
District 2	30.1	17.6	25.1
District 3	29.7	16.1	24.2
District 4	17.2	34.4	24.1
Pearson chi2 (3) = 208.3128 Pr = 0.000			

Unemployed respondents had the highest selection of injection with 59%, while working women and students had 34% and 8%, respectively. In decreasing order, districts 2 and 3 were the top districts with 39% and 31% respectively while district 4 was lowest with only 15%. About 86% of women who have ever given birth chose injection as their method choice as opposed to only 14% of women who have never given birth. While 56% of women with two or more living children chose injection as their method choice only 30% of women with one living child and 14% of women with no living child

selected injection as their method choice. As with condoms, public health and private health sectors were the first and second supply source of injection method.

Table 3.6 Percent Distribution of Respondents who used and did not use any contraception by individual and programmatic characteristics, Tshwane 2004.

Characteristics	Users N=1799	Not Users N=1198	Total 2997
Partner now			
No	32.7	65.3	45.7
Yes	67.3	34.7	54.3
Pearson chi2 (1) = 307.7884 Pr = 0.000			
Partner live			
No	40.1	64.3	49.7
Yes	59.9	35.7	50.3
Pearson chi2 (1) = 168.4062 Pr = 0.000			
Pregnant ever			
No	22.1	23.9	22.9
Yes	77.9	76.1	77.1
Pearson chi2 (1) = 1.3706 Pr = 0.242			
Birth ever			
No	22.6	24.2	23.3
Yes	77.4	75.8	76.7
Pearson chi2 (1) = 1.0101 Pr = 0.315			
Number of living children			
None	23.1	26.1	24.3
One child	26.6	38.3	31.3
Two children and more	50.3	35.6	44.4
Pearson chi2 (2) = 69.9412 Pr = 0.000			
Source of first information on contraceptive			
Mother	18.6	15.4	17.2
Sister	5.8	6.2	6
Relative	2.7	3.3	3
Friend	15.1	15	15.1
Teacher	13.6	15	14.2
Nurse	27.7	28.4	28
Physician	16.5	16.7	16.5
Pearson chi2 (6) = 6.6945 Pr = 0.350			
Supply source of modern contraceptive methods			
Public sector	75.5	76.2	75.8
Private sector	17.3	15.7	16.7
Private pharmacies	7.2	8.1	7.5
Pearson chi2 (2) = 1.9586 Pr = 0.376			

Table 3.7 Reasons for non-use of contraception, Tshwane 2004.

Reasons	Frequency	Percent
	1198	100%
Breastfeeding	126	10.5
Desire a child	242	20.2
Fear of side effects	90	7.5
Health reasons	168	14.0
Husband's disapproval	156	13.0
Not interested in contraception	108	9.0
Need more information	98	8.2
No sexual partner now	46	3.8
Partner in prison	20	1.7
Pregnant now	88	7.4
Religious reasons	56	4.7

Table 3.8 Reasons for not using the preferred method, Tshwane 2004

Reason	Percent	Frequency
	100%	242.00
Health reasons	10.1	26
Fear side effects	9.9	24
Husband disapproves	14.1	34
Lack information	9.1	22
Not available	9.9	24
Not stated	12.8	31
Disliking	33.5	81

Respondents aged 25-34 and 35-49 years old had the same high rate of IUD choice (38%) while younger women had the lowest rate (24%). The pattern of IUD choice correlating to education is exactly the same as seen with condom and injection methods. Married women (38%) and never married respondents (35%) had the top two selection prevalence while separated women (4%) had the lowest. About 54% of unemployed women selected IUD while only 37% of those who worked did so. Nine percent of students selected IUD as their method choice. District 3 (39%) and district 2 (35%) had the first and second highest rates of IUD choice while district 4 showed the lowest. IUD was more popular with respondents who lived with their partners than with those who did not live with their partners. With 54% of women with two or more living children having selected IUD as their method choice, women with one living child or no living child showed no difference

in their selection of IUD method since they both scored 23%. Nurses remained the most important source of first information on IUD, followed by mothers, teachers and physicians. The lowest sources were sisters and relatives with 5% and about 1%, respectively. The public health sector (65%) and the private health sector (29%) were the main supply sources of IUD method. Table 3.9 shows that the use of the pill was highest among 25-34 years old respondents, followed by 35-49 years and 15-24 years old women. Secondary and primary educated women had the first (59%) and second (28%) highest rates of usage of the pill among the education sub-groups. Post-secondary educated women and women with no formal education reported only 10% and 2%, respectively. In decreasing order married women (53%), followed by never married (28%), living together (9%), separated (6%), divorced and widowed selected the pill as their method choice. District 1 (57%) and district 2 (27%) had the first and second highest prevalence of the pill selection as opposed to districts 3 and 4 with only 8% each.

Table 3.10 indicates that 82% of respondents who have ever been pregnant selected the pill as their method choice while only 18% of women who have never been pregnant did so. Nurses, physicians, mothers and friends were the most prevalent sources of first information on the pill. Sisters and relatives were the lowest sources of first information on the pill. The main supply sources of the pill were the public health sector (81%) and the private health sector (14%) while private pharmacies were last with only 6%. Sterilization was highest among older women with 93% while it accounted for only 1% among 15-24 years old respondents. It was also highest (58%) among married women followed by divorced respondents with 13%. Living together, separated and never married respondents had all the same (9%) rate of choosing sterilization as their method choice. The lowest rate was observed among widows. About 67% of women who did not work selected sterilization while 32% of respondents who worked and 1% of students chose it as their method choice. The top two districts were districts 4 (40%) and 3 (33%), followed by district 1 with 17% and district 2 with only 10%. Table 3.10 indicates that the selection of sterilization was highest (97%) among women who have been pregnant before and who have given birth before while it was lowest (3%) among respondents who have never been pregnant and who have never given birth. Women with two or more

living children had the highest rate (92%) of sterilization selection while women with no living child had only less than 1%. Nurses, friends, teachers, mothers or physicians were the most important sources of first information on sterilization.

Sisters and relatives were the lowest sources of first information on sterilization with 6% each. As with all other methods public health and private health sectors were the first and second supply sources of sterilization method. Private pharmacies were the lowest supply sources of sterilization method.

3.4 BIVARIATE ANALYSES

In this section the study is focused on examining the relationships between the selected explanatory variables and the outcome variables defined in Table 2.1. Pearson's chi-square tests of association were carried out among the 12 discrete variables in order to obtain cross-tabulated frequency tables. In addition to this, tests of association were performed between the outcome variables 'avoid' and 'modern', and the 12 selected explanatory variables. The variable 'avoid' denotes an attempt by the respondent to delay or avoid pregnancy, and is dichotomous (has only 2 possible values) while variable 'modern' denotes the respondent's choice of contraceptive method among many methods offered by service providers, and is polytomous (has several possible values).

Table 3.5 indicates that the chi-squared of the cross-tabulation of age group by contraceptive use shows that there was an association between the two variables. About 47%, 33% and 20% of the 25-34, 35-49 and 15-24 years old women, respectively, used any contraception, while non-use was higher among the 25-34 years old (48%) compared to the remaining two sub-classes (26%). Secondary educated respondents had both highest use (63%) and highest non-use (58%) of any contraception. For primary educated women, non-users accounted for 30% while users accounted for only 24%. The percentage of married women who used and did not use any contraception was 43% and 40% respectively.

Table 3.9 Percent Distribution of Method Choice by demographic and community characteristics, Tshwane 2004.

Characteristic	Using no methods N=1198	Condom N=235	Injection N=937	IUD N=133	Pill N=304	Sterilization N=158
Age-group						
15-24	26.2	52.7	11.8	24.1	23.7	0.6
25-34	48.9	39.6	57.4	38.3	44.1	6.4
35-49	24.9	7.7	30.8	37.6	32.2	93
Pearson chi2 (102) = 530.0799 Pr = 0.000						
Education						
No education	1.5	0.8	3.4	2.3	2.3	4.4
Primary educ.	28.4	24.3	22.4	24.1	28.3	44.9
Second.educ.	60.3	65.1	64.5	63.8	59.2	39.3
Postsec.educ.	9.8	9.8	9.7	9.8	10.2	11.4
Pearson chi2 (15) = 57.5007 Pr = 0.000						
Marital status						
Married	39.3	4.2	48.4	38.3	52.9	58.1
Living together	13.7	11.9	15.4	14.3	8.5	8.9
Divorced	4.4	4.3	6.1	4.5	2.4	12.7
Separated	3.6	14.4	5.6	3.8	6.2	8.9
Widowed	5.8	0.9	1.2	4.5	1.7	2.5
Never married	33.2	64.3	23.3	34.6	28.3	8.9
Pearson chi2 (25) = 365.8553 Pr = 0.000						
Payment						
Student	20.6	39.6	8	9	19.8	1.3
Working	28.2	19.3	33.5	36.9	38.8	31.6
Not working	51.2	41.1	58.5	54.1	41.4	67.1
Pearson chi2 (10) = 206.8664 Pr = 0.000						
District						
District 1	29.2	33.6	15.5	16.5	57.2	17.1
District 2	16.8	16.6	39.1	35.3	27.3	10.1
District 3	19.6	22.1	30.7	39.2	7.9	32.9
District 4	34.4	27.7	14.7	9	7.6	39.9
Pearson chi2 (15) = 529.1899 Pr = 0.000						

Students who used contraception accounted for 15% while non-users accounted for 20%; and 31% of women who worked used contraception compared to 29% who did not use any. Non-users in districts 1 and 4 were higher and accounted for 32% and 34% respectively while users accounted for 23% and 17%, respectively. For women who lived with their partners in Table 3.6, the percentage was 64% for users against 36% for non-

users. Women with no living and with one living child and who were not using any contraceptive methods had higher percentages than women who used some methods.

Table 3.10 Percent Distribution of Method Choice by individual and programmatic characteristics, Tshwane 2004.

Characteristic	Using no methods N=1198	Condom N=235	Injection N=937	IUD N=133	Pill N=304	Sterilization N=158
Partner now						
No	47.2	68.5	42.3	45.9	39.1	30.4
Yes	52.8	31.5	57.7	54.1	60.9	69.6
Pearson chi2 (5) = 74.9891 Pr = 0.000						
Partner live						
No	54.5	81.7	38.7	46.6	49.3	36.1
Yes	45.5	18.3	61.3	53.4	50.7	63.9
Pearson chi2 (5) = 164.5992 Pr = 0.000						
Pregnant ever						
No	29.5	40.8	13.7	21.8	18.4	2.5
Yes	70.5	59.2	86.3	78.2	81.6	97.5
Pearson chi2 (5) = 159.9614 Pr = 0.000						
Birth ever						
No	30.1	41.3	13.8	22.6	18.7	2.5
Yes	69.9	58.7	86.2	77.4	81.2	97.5
Pearson chi2 (5) = 164.9814 Pr=0.000						
Children						
None	32.5	44.3	13.9	22.6	18.4	0.7
One child	36.8	39.6	30.1	23.3	23	6.9
Two children & >	30.7	16.1	56	54.1	58.6	92.4
Pearson chi2 (10) = 430.4517 Pr = 0.000						
Source of first information on contraceptive						
Mother	15.6	15.4	19.8	19.5	19.4	12.7
Sister	6.6	4.3	5.8	4.5	5.9	5.6
Relative	2.7	3.8	2.9	0.8	1.9	5.7
Friend	14.6	17.5	16.9	11.2	11.2	15.8
Teacher	15.3	18.7	11.5	19.6	10.2	14.6
Nurse	27.9	22.9	28.7	27.1	28.3	32.9
Physician	17.3	17.4	14.4	17.3	23.1	12.7
Pearson chi2 (30) = 58.1976 Pr = 0.002						
Supply source of modern contraceptive methods						
Public sector	75.7	70.6	77.3	65.4	80.9	72.8
Private sector	15.9	17.1	16.8	28.6	13.5	17.7
Private .pharmacies	8.4	12.3	5.9	6	5.6	9.5
Pearson chi2 (10)=32.4530 Pr=0.000						

For the source of first information on contraception, the percentage was 28% for both users and non-users who got their information from nurses, 19% for those getting it from

their mothers and 17% for both users and non-users getting their information from the physicians.

All the selected explanatory variables except 'ever given birth', 'ever been pregnant', 'first source of information' and 'supply source of modern contraceptive methods' were associated with the outcome variable 'use of any contraceptive methods' at the 5% significance level. These 8 out of 12 tests of association were highly statistically significant with the p-values of < 0.001 . Therefore, they were eligible for inclusion into multivariate analysis.

Tables 3.9 and 3.10 show the chi-squared statistic of the cross-tabulation of each of the twelve independent variables by the outcome variable method choice denoted by 'modern'. It is seen that 53% of younger women (15-24 years old) selected condom method against 24% who selected IUD and the pill while 26% did not choose any methods. For older women (35-49 years old), sterilization (93%) was the most selected method, followed by IUD and the pill, while condoms (only 8%) was their least popular method of choice. Injection accounted for 58% of respondents aged 25-34 years, followed by the pill (44%), condoms (40%), IUD (38%) and sterilization (6%). About 49% of this age-group did choose 'any methods'. Both 'method choice' and 'no choice' were highest among secondary educated women with the following results: condoms (65%), injection (65%), IUD (63%), and the pill (59%). For married women, the percentage of respondents choosing sterilization was 58%, 53% for the pill, 48% for injection, 38% for IUD, 4% for condoms and 39% for choosing nothing. For never married respondents, the percentage was 64% for choosing condoms, 35% for IUD, 28% for the pill, 23% for injection, 9% for sterilization and 33% for choosing nothing. About 40% and 41% of students and unemployed women respectively selected condoms, while non-use was higher (39%) for unemployed respondents compared to students (21%). The pill (57%) and condoms (34%) were the two most selected methods among women in district 1 while injection (39%), IUD (35%) and the pill (27%) took the lead in district 2. For women in district 3, in decreasing order IUD (39%), sterilization (33%), injection (31%) and condoms (22%) were the most chosen methods while sterilization (40%) followed by condoms (28%) and injection (15%) were the most selected methods in

district 4. 'No choice' was highest in district 4 with 34% followed by districts 1, 3 and 2 with 29%, 20% and 17% respectively. For women with two and more living children in table 3.9, the percentage was 92% for choosing sterilization, 59% for the pill, 56% for injection, 54% for IUD and only 16% for choosing condoms while the percentage for 'no-choice' in this sub-group was lower (31%) compared to 33% and 37% among women with one and no living child, respectively. The public health sector was the main supply source of the pill (81%), followed by injection (77%), sterilization (73%), condoms (71%) and IUD (65%). The private health sector was the main supplier of IUD (29%), sterilization (18%), condoms & injection (17%) and the pill (14%) while private pharmacies' two main supplies involved condoms (12%) and sterilization (10%). 'No choice' was highest for the public health sector (76%) and lowest for private pharmacies (8%).

Since all 12 independent variables were significant at the 5% level of significance and were highly statistically significant with the p-values of <0.001 , they were included into further multivariate analyses.

3.5 MULTIVARIATE ANALYSES

The study's final objective was to assess the effects of the availability of reproductive health services on contraceptive use and method choice among women of reproductive age-group living in the City of Tshwane in 2004 using the eight and twelve identified individual, programme and community explanatory variables respectively. The modeling analysis for the binary logistic regression analysis used a stepwise backward elimination method³⁰ based on a full model consisting of all 8 main effects and on a retained cutoff p-value of 0.20 based on the likelihood ratio to obtain the best model. Three different models B, C and D were fitted and compared. Model D was adjusted for eight variables (age category, education, marital status, payment, district, having a partner now, living with a partner and the number of living children). Model C included six variables (age category, marital status, district, having a partner now, living with a partner and number of living children) while Model B was only adjusted for four variables (district, having a

partner now, living with a partner and the number of living children. The summary result is shown in Table 3.11

The reported unadjusted or crude odds ratios described in Table 3.11 as Model A were obtained by fitting a model containing one exposure variable only. Using unadjusted odds ratios, respondents aged 15-24 and 25-34 years were less likely to use any contraceptive methods when compared to women aged 35-49 years and these odds were statistically significant with a p-value of less than 0.001. In models C and D, the adjusted odds for 15-24 year old women became 1.12 and 1.19 respectively, meaning that these women were more likely to use any contraceptive methods than the reference group. These new odds were, however, not statistically significant. In both models C and D, married and living together women were significantly associated with any contraceptive methods and both had significantly lower odds of 0.54 and 0.57 respectively than never married respondents of using any contraceptive methods while widows had higher odds (2.00** and 2.01**) of using any contraception than never married respondents. In all three models, women not having a partner at the time of the survey and women not living together with a partner were both less likely to use any contraceptive methods than their respective references. The use of any contraceptive methods was positively associated with the number of living children. Participants with one living child had lower odds of using contraception than women without any living child (odds ratios, 0.58, 0.65 and 0.64 in models B, C and D, respectively) while respondents with two and more living children were 32%, 43% and 43%, respectively, more likely to use any contraception than women with no living child. All these odds ratios were statistically significant. Contraceptive use was less likely in all the districts than it was in district 3 (the reference district).

The receiver operating characteristic (ROC) analysis was performed to compare the theoretical reliability of the obtained results of the three models and the final result is presented by the area under the ROC curve. This area is interpreted as the probability that the result of a diagnostic test of a randomly selected abnormal subject will be greater than the result of the same diagnostic test from a randomly selected normal subject. The greater the area under the ROC curve, the better the global performance of the diagnostic test. Figure 3 indicates that the area under the curve corresponding to Model D is slightly greater than the areas under the curve corresponding to Models B and C. This implies that

Model D is the best as far as providing explanation of the variability where the outcome variable ‘use of any contraception’ is concerned.

For a multinomial logistic regression analysis, all the twelve explanatory variables associated with the outcome variable ‘method choice’ at the 5% significance level were included in the model. The analysis involved the contrasts of four modern method choices among users (condoms, injection, IUD and the pill) and left out the sterilization method for reasons to be discussed later. Table 3.12 shows the adjusted risk ratios equivalent to adjusted odds ratios representing contrasts among four categories of contraceptive method choices in Tshwane respondents aged 15-49 years in 2004. The first three categories contrasted condoms, injection and IUD methods with the pill method, and the last choice contrasted the IUD method with the injection method. The marginal effect on the odds for this multinomial logit model refers to the partial effect on the odds of falling into a category as opposed to a respondent-chosen reference category. As with binary analysis, each result is presented by the adjusted risk ratios (ARRs) and the associated p-values. Table 3.12 presents the results for choice of contraceptive method for the twelve variables. For the age group variable, all adjusted odds greater than one are not significant. This means that younger women are more likely than older women (reference age group) to be users of condoms, of injection, and of IUD methods. This result is reversed for an ‘injection versus the pill’ comparison, for ‘IUD versus the pill’ and for ‘IUD versus injections’ comparisons; women in the 15-to-24 age group are less likely (0.59 times) than older women to choose injection; women in the 25-to-34 age group are less likely (0.74 times and 0.57* times) than older women to choose IUD rather than the pill or IUD rather than injection. The educational variable is not significant for any of the twelve comparisons. Relative to marital status, the majority (16 out of 20) of the odds are below one, meaning that never married women are more likely than other marital categories to use condoms, injection, IUD methods rather than the pill or IUD method rather than injection. Three of these 16 comparisons are statistically significant and all three are related to married women. In four comparisons, the obtained odds are higher than one and not significant. The largest odds are for widows in the IUD versus injection contrast, followed by separated women in the condoms versus the pill contrast, and by both living together and divorced women in the injection versus the pill contrast.

Payment variable (working status) has lower odds for all comparisons except those for working women in the IUD versus injection contrast. Thus, students and women who are working are less likely than women who are not working to choose condoms, injection and IUD methods over pills.

Working women's choice is statistically significant only for the injection versus the pill contrast while students' choices are statistically significant for injection versus the pill, IUD versus the pill and IUD versus injection contrasts. Having a sexual partner at the time of the survey and living together with that partner show consistently lower and insignificant odds in six comparisons. The lowest and highest significant odds are for women who live together with a partner and women who have a sexual partner at the time of the survey in the condoms versus the pill comparison, respectively.

The 'ever been pregnant' and 'ever given birth' variables are not statistically significant for any multinomial comparisons. The reference category for 'number of living children' variable is 'no living child', and Table 3.12 shows that dummies for the other number of living children categories have odds that are lower than one for all eight comparisons.

This means that women with no living child are more likely than women with one and two or more children to choose condoms, injection and IUD instead of the pill, and are also more likely to choose IUD rather than injection. The odds are highly significant for women with two or more living children in the condoms versus the pill contrast. With the exception of the higher odds related to district 1 for the IUD versus injection comparison, all the remaining 11 comparisons show odds lower than one. This implies that districts 1, 2 and 4 are less likely than district 3 to choose condoms, injection and IUD rather than the pill, and less likely to choose IUD rather than injection while district 1 is more likely than district 3 to choose IUD instead of injection. Eight out of the twelve comparisons are statistically significant.

Relative to the source of first information on contraception variable, the findings show that only two out of 24 comparisons are statistically significant and the largest odds are for nurses as the first source of information in the IUD versus injection comparison. Nurses are more likely than mothers to be the providers of information on IUD rather

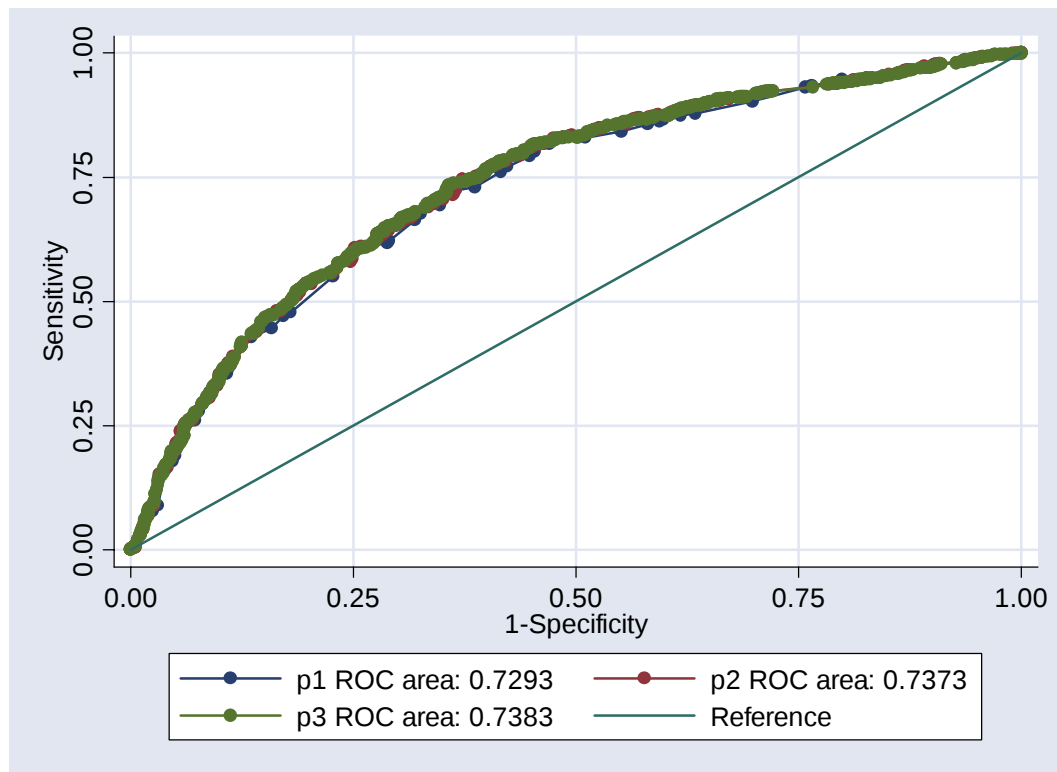
than injection while physicians are less likely than mothers to be the providers of information on injection rather than the pill.

Table 3.11 Summary Results of fitting 3 logistic regression models containing different numbers of covariates .

Characteristics	Model A U.O.R.	Model B A.O.R.	Model C A.O.R.	Model D A.O.R.
Age-group				
35-49 (r)				
15-24	0.59***		1.12	1.19
25-34	0.66***		0.90	0.92
Education				
No education (r)				
Primary education.	0.48**			0.74
Secondary education.	0.55*			0.75
Post secondary education	0.46**			0.68
Marital status				
Never married (r)				
Married	1.91***		0.54***	0.54***
Living together	1.37**		0.57**	0.57**
Divorced	1.24			0.69
Separated	0.97			0.95
Widowed	2.18***		2.00**	2.01**
Payment				
Not working (r)				
Student	0.66***			0.93
Working	1.04			0.97
Partner now				
Yes (r)				
No	0.39***	0.39***	0.35***	0.35***
Partner live				
Yes (r)				
No	0.45***	0.81*	0.48***	0.48***
Number of living children				
None (r)				
One child	0.82*	0.58***	0.65***	0.64***
Two and more children	1.51***	1.32**	1.43**	1.43**
District				
District 3 (r)				
District 1	0.31***	0.23***	0.25***	0.26***
District 2	0.72**	0.67***	0.67***	0.68**
District 4	0.24***	0.22***	0.22***	0.23***
Log likelihood		-1779.78	-1763.19	-1762.35
LR chi2 (df)		471.78	504.95	506.65
Prob > chi2		0.0001	0.0001	0.0001
Pseudo R2		0.117	0.1253	0.1257
Number of observations		2995	2995	2995
Number of variables used	one	four	six	eight

* Key: significance at * p<0.05; ** p<0.01; *** p<0.001; r denotes reference category of variable
U.O.R. = Unadjusted Odds Ratio; A.O.R. = Adjusted Odds Ratio

Figure 3 Receiver Operating Characteristic (ROC) Plot of the three fitted models



The results for the supply source variable indicates that the private sector across the four comparisons is more likely than the public sector to supply condoms, injection and IUD rather than the pill, and also more likely to supply IUD rather than injection. The largest odds are seen in the IUD versus the pill contrast. Private pharmacies have odds higher than one in three out of four comparisons and the largest odds, which are also significant, are seen in the condoms versus the pill contrast.

In terms of factors related to number of living children, women with two or more children are less likely to use condoms rather than the pill, compared to women with no children. This finding is in line with that of African Population and Health Research Centre Nairobi, Kenya, and Macro International Inc¹¹ which confirms that 'barriers methods are predominantly used by women who have not begun childbearing.' Place of residence or district does influence method choice. Condoms, injection and IUD rather than the pill are significantly less likely to be chosen by respondents in districts 1, 2 and 4, compared

to district 3. If one considers districts 1 and 2 as urban and districts 3 and 4 as rural, it is sensible to say that the use of condoms, injection and IUD methods are significantly and by large associated with rural residence.

These findings are consistent with the findings of the African Population and Health Research Centre Nairobi, Kenya, and Macro International Inc¹¹. Possible explanation for the observed community variations between rural and urban may be the existence of strong social networks²⁴ that exist among rural women in terms of interpersonal influence and the importance of conversation. Through such social networks, Entwisle et al²⁴ hypothesize ‘that method dominance within villages/districts reflects a process of knowledge acquisition which emphasizes the experiences of others in the village/district’. In other words, the more couples adopt a method and use it successfully, the more is known about that method; the more is known about a method, the more likely it is that other couples will adopt it. The results, however, related to district 4 in terms of injection versus the pill and in terms of IUD versus the pill contrasts are puzzling and need further investigation.

The fact that nurses emerge as a more significant determinant of first information on method choice than physicians is not surprising in the Tshwane context, as physicians are not the main providers of the dominant contraceptive methods chosen by Tshwane women (injection, the pill and condoms) and dispensed routinely at most reproductive health primary care outlets. The obtained results related to supply source of method choice in Tshwane are as expected with private pharmacies being the dominant suppliers of condoms rather than the pill, compared to the public sector, while the IUD method rather than the pill or injection is preferably supplied by the private sector.

Table 3.12 Multinomial Model of Contraceptive Method Choice, Tshwane 2004

Characteristics	Condom vs Pill		Injection vs Pill		IUD vs Pill		IUD vs Injection	
	U.O.R.	A.O.R	U.O.R.	A.O.R	U.O.R.	A.O.R	U.O.R.	A.O.R
35-49 years (r) Age-Group								
15-24 years	9.38***	1.49	0.52***	0.59	0.87	1.07	1.68*	1.82
25-34 years	3.78***	1.54	1.36*	1.3	0.75	0.74	0.55**	0.57*
No education (r) Education								
Primary education	2.32	1.07	0.53	0.76	0.87	1.28	1.62	1.68
Secondary education	2.97	0.83	0.73	0.73	1.1	1.11	1.5	1.52
Post-secondary education	2.6	1.08	0.64	0.94	0.99	1.43	1.52	1.51
Never married (r) Marital status								
Married	0.03***	0.06***	1.11	0.88	0.59	0.27*	0.53**	0.31*
Living together	0.61	0.42	2.18**	1.26	1.37	0.51	0.62	0.41
Divorced	0.81	0.99	3.21**	1.24	1.60	0.46	0.50	0.37
Separated	1.02	2.03	1.10	0.83	0.49	0.45	0.45	0.55
Widowed	0.23	0.66	0.87	0.40	2.24	0.91	2.58	2.26
Not Working (r) Payment								
Student	2.01***	0.65	0.29***	0.45*	0.35**	0.19***	1.22	0.42*
Working	0.49***	0.74	0.61***	0.72*	0.73	0.90	1.19	1.25
Yes (r) Partner now								
No	3.38***	1.68*	1.14	0.99	1.32	0.89	1.16	0.91
Yes (r) Partner live								
No	4.58***	0.32*	0.65***	0.98	0.90	0.48	1.38	0.49
Yes (r) Pregnant ever								
No	3.06***	1.30	0.70*	2.45	1.23	0.37	1.76*	0.15
Yes (r) Birth ever								
No	3.05***	0.27	0.69*	0.29	1.26	1.55	1.82**	5.44
None (r) # of living children								
One child	0.65	0.28	1.61*	0.68	0.76	0.36	0.47**	0.54
Two and more children	0.11***	0.06***	1.23	0.66	0.73	0.43	0.60*	0.65
District 3 (r) District								
District 1	0.21***	0.38**	0.07***	0.07***	0.06***	0.08***	3.02***	1.04
District 2	0.22***	0.23***	0.37***	0.45**	0.26***	0.32***	0.59*	0.71
District 4	1.30	0.95	0.50*	0.46*	0.24***	0.27**	2.61***	0.60
Mother (r) Source of information								
Sister	0.97	0.95	1.01	1.14	1.05	1.17	1.05	1.03
Relative	0.88	1.02	0.96	0.92	0.80	0.77	0.83	0.84
Friend	2.39	1.89	1.50	1.10	0.40	0.32	0.27	0.29
Teacher	1.92*	1.68	1.50	1.21	1.05	0.91	0.70	0.75
Nurse	2.26**	1.65	1.12	0.86	2.00*	1.56	1.79*	1.80*
Physician	0.93	0.91	0.62*	0.65*	0.78	0.86	1.27	1.33
Public sector (r) Supply source								
Private sector	1.45	1.15	1.30	1.08	2.62***	2.12**	2.02***	1.97**
Private pharmacies	2.53**	2.25*	1.10	0.91	1.33	1.20	1.21	1.31

* Key: significance at * p<0.05; ** p<0.01; *** p<0.001; r denotes reference category of variable

U.O.R. = Unadjusted Odds Ratio; A.O.R. = Adjusted Odds Ratio

CHAPTER 4

DISCUSSION

This study examined the features of the reproductive health services that affected contraceptive use and contraceptive method choice in the City of Tshwane Metropolitan Municipality in 2004. Several socio-demographic characteristics exercise important independent effects on the likelihood of a woman's current use of modern contraception.

Overall, the proportion of any method use was 60% of the 2, 997 respondents and that of any modern method use was 59% (1,767 cases out of 2, 997). These findings are consistent with the Gauteng 62% for any method use and 61% for any modern contraception reported by the 1998 SADHS⁶. The breakdown of the 59% modern method users indicates, in increasing order, that IUD represented 8%, sterilization 9%, condoms 13%, the pill 17% and injection 53%. With the exception of condom use, which showed an increase in the study findings, the general trend of method choice is the same as the one reported by 1998 SADHS⁶ for Gauteng with 3% for condoms, 4% for IUD, 15% for sterilization, 16% for the pill and 23% for injections.

The reasons for non use of contraception were many and varied and ranged from the desire to have a child (20%) to fear of perceived side effects (8%), breastfeeding (11%) and being currently pregnant now (7%). Husband's disapproval, health and religion-related reasons accounted for 13%, 14% and 5%, respectively, while individual related attitude reasons such as a need for more information and a lack of interested, in contraception accounted for 8% and 9%, respectively. The perceived low/no risk of pregnancy, which included reasons such as no sexual partner and partner in prison accounted for 4% and 2%, respectively. These results are consistent with the 1998 SADHS's⁶ and the African Population and Health Research Centre Nairobi's findings¹¹. In the 1998 SADHS study, health and religious reasons accounted for 17% and 4% of non use respectively, while the desire to have a child and fear for side effects accounted for 24% and 2%, respectively. In the Nairobi study, the desire for a child accounted for

14%; health reasons and husband's disapproval accounted for 20% and 14%, respectively.

The study shows that 1, 557 (87%) out of 1, 799 current users of any contraceptive methods were satisfied with the method in use while 242 (13%) wanted to change their method. About 16 (7%) of those wanting to switch methods were users of traditional methods. The preferred methods by current users who were interested in changing methods in order of preference are injection, the pill, condoms, IUD and sterilization. The findings on injection and the pill are consistent with those of the 1998 SADHS⁶ that show injection (48%) as the most preferred followed by the pill (24%). However, the increased preference for condom use is a new but positive phenomenon for both reproductive health and HIV/AIDS/STI prevention programmes. If one considers the 34% respondents with an appointment to access their preferred method at the end of their current menstrual cycle as a temporary problem in the process of a positive resolution, the most frequently quoted reasons for non use were husband's/partner's disapproval of the method (14%), health reasons (11%) and fear of the side effects (10%). The non availability of female condoms accounted for another 10% of non use and about 13% of respondents did not state their reasons for non use. Although the proportions of current and preferred use of contraception were the same there was an increased demand for the female condom method in the public health facilities, and this demand, was not met. The situation has since been attended to and female condoms are now part of modern contraceptive methods offered by all public health facilities in Tshwane.

The examination of the differentials in the percentage of respondents using any contraceptive methods by demographic, socioeconomic, individual, programmatic and community characteristics shows that contraceptive use was highest among women aged 25-34 (47%). As expected contraceptive use increased with educational level and reached a peak (63%) among secondary educated respondents. The lowest use rate (3%) was among primary educated women. These findings are consistent with the 1998 SADHS's⁶, Entwisle's²⁴ and Katende's²⁰ findings where lower rates were associated with lower education.

Contraception was equally and predominantly used in both districts 2 and 3 (30%) while the lowest use was seen in district 2 (17%). The high rate in district 3 is somewhat

paradoxical if one considers district 3, formerly part of the North-West province as a mixture of rural and urban (townships) settings in comparison with the urban districts 1 and 2 as opposed to the only rural district 4. Even after its integration into the City of Tshwane in 2000, district 4 has always been administered by the North-West health administration under a different reproductive health policy. Could these factors be responsible for such a higher rate? It is difficult to tell. This needs further investigations. The obtained results for both urban districts 1 and 2 and, for rural district 4 are consistent with those of Katende²⁰, Entwisle²⁴ and African Population and Health Research Centre of Nairobi¹¹.

Through the stepwise backward elimination method to identify the best model, three binary models were fitted and they include four, six and eight variables each. Through this process, it was discovered that none of the characteristics related to availability of family planning service (programmatic aspects) in this study was significantly associated with the outcome. They were, therefore, removed from the full fitted binary logistic regression model. After controlling for marital status, having a sexual partner at the time of the survey (partner now), living together with that partner (partner live), number of living children and district in the next full model reduced to individual and community factors only, the new model shows that sole variables age-group and working status had no significant effect on contraceptive use. However, being widowed or married or living together and not having a sexual partner or not living together with that partner and having one or two living children were significantly important determinants of contraceptive use, and, they confirm the importance of regular family planning health education as a tool to help to avoid unwanted pregnancy and to determine the desired size of the family and the spacing and timing of an additional new member to the family. The findings related to married, living together respondents, women with one and women with two or more living children are consistent with those of Katende²⁰ (A.O.R=0.57 for currently in union, 2.57** for women with 1-3 children and 3.37** for women with 4 or more children).

With regard to the place of residence (district), which was also used in this study as a proxy for the availability of physical reproductive health facility offering family planning service, all 3 districts showed significant association with the outcome variable (less

likely to use contraception than the reference district). The odds of using contraception were reduced by about 32 or 33% and by about 74 or 75% in district 2 and district 1 respectively, while in district 4 they were reduced by about 77 or 78%. The complexion of the districts is a complex but can be characterized as follows: district 1, formerly white only residential area (urban); district 2, mixed area composed of formerly white only residential area, colored residential area and black residential area (urban); district 3, black only residential area (semi-urban) in the North west province; and district 4, farming area with few white farmers surrounded by traditional villages mainly inhabited by black citizens (rural). In line with this definition, the finding confirms the observation that urban districts offer more informal sources of contraception such as private pharmacies, private general practitioners and family planning nurses than rural districts. These findings are consistent with Katende's findings²⁰ and the researcher agrees with this author when he says 'while contraceptive use is higher in communities served by private facilities and more informal sources, it is not known whether these facilities are creating demand for family planning or responding to existing demand.' A puzzling result, however, is the high contraceptive use rate in the semi-urban district 3 vis-à-vis both urban districts. A possible explanation is that district 3 was and is still managed by the Department of Health of the North West Province, which was more likely to use different family planning policy and implementation strategies than the city of Tshwane. Further investigation is needed.

Using the receiver operating characteristic (ROC) analysis to compare the theoretical reliability of the results of the three logistic models, Figure 3 indicates that Model D is the best in the researcher's quest to explain the variability of the measured outcome variable. Theoretically, the results in Model D differ significantly from those in Models C and B since it has more explanatory variables than the others. Figure 3 also shows that the area under the Model D curve is slightly greater than the areas under the Model C and B curves. It indirectly demonstrates that Model D explains the variability in the outcome variable much better than Models C and B and is, therefore, the best model.

Although not statistically significant, the choice to use condoms rather the pill by the younger women is an encouraging trend in the country with a high prevalence of HIV/AIDS. The lower odds of using IUD rather than injection in the 25-to-34 age group

compared to the reference age group (35-49y) are consistent with the African Population and Health Research Centre Nairobi's findings¹¹ and seem sensible in the Tshwane context where the dominant contraceptive choice is injection method. The lower choice of condom by married respondents in comparison to never married women is expected and may be explained by the stability of their relationship, robustness of their trust and the full knowledge of each partner's medical history. Unlike the never married women whose sexual activity may be sporadic and who also have the possibility of multiple sexual partners with unknown medical history. The lower use of IUD rather than the pill and IUD rather than injection by married women may be related to perceived or actual side effects caused by IUD or embarrassment about having an IUD inserted. This may also suggest a shift from IUD to injectables and, to a lesser extent, to the pill. On the other hand, IUD is known to be convenient, not interfering with the recipient's hormonal system and giving a high level of effectiveness. Students show less preference for injection and for IUD than they do for the pill than unemployed women, while working respondents exhibit the same preference for injection rather than the pill. A possible explanation is the fear of a long period of amenorrhea experienced by women who use the injection method and problems of spotting and the risk of pelvic inflammatory disease for women who have an IUD inserted. The pill is also preferred because it provides the user with a high level of control over continuity.

The inclusion of the 'student' category within this group is unusual but was dictated by the high number of tertiary institutions on the CTMM's territory and the assumed specific reproductive health issues pertaining to this sub-group (adolescents and youth). Generally speaking it is accepted that education is related to employment status but in a constituency such as the CTMM where domestic and other manual labour forces are in high demand such a statement or the use of educational status alone might not reflect the situation on the ground. The inclusion of the working status variable in the study was intended to determine roughly whether or not working status has an influence on contraceptive use and/or on contraceptive method choice.

The high choice of condoms over the pill by women with no sexual partner at the time of the survey is expected and encouraging especially if the relationship is not steady and

involves multiple sexual partners. The reversed result is observed for women who do not live together with their sexual partners.

In terms of factors related to number of living children, women with two or more children are less likely to use condoms rather than the pill, compared to women with no children. This finding is in line with that of African Population and Health Research Centre Nairobi, Kenya, and Macro International Inc¹¹ which confirms that ‘barriers methods are predominantly used by women who have not begun childbearing’. Place of residence or district does influence method choice. Condoms, injection and IUD rather than the pill are significantly less likely to be chosen by district 1, 2 and 4, compared to district 3. If one considers districts 1 and 2 as urban and districts 3 and 4 as rural, it is sensible to say that the use of condoms, injection and IUD methods are significantly associated with rural residence. These findings are consistent with the findings from the African Population and Health Research Centre Nairobi, Kenya, and Macro International Inc¹¹. Possible explanation for the observed community variations between rural and urban may be the existence of strong social networks²⁴ that exist among rural women in terms of interpersonal influence and the importance of conversation. Through such social networks, Entwistle et al²⁴ hypothesize ‘that method dominance within villages/districts reflects a process of knowledge acquisition which emphasizes the experiences of others in the village/district’. In other words, the more couples adopt a method and use it successfully, the more is known about that method; the more is known about a method, the more likely it is that other couples will adopt it. The results, however, related to district 4 in terms of injection versus the pill and in terms of IUD versus the pill are puzzling and need further investigation.

The obtained results related to the supply source of condoms rather than the pill by private pharmacies and IUD rather than the pill or injection by the private sector in Tshwane, compared to the public sector, are expected because of their high number, easy access, less congested waiting rooms and perceived better quality services. Furthermore, they see more clients in urban settings than public health facilities do. These results are consistent with Katende’s findings²⁰ but inconsistent with the 1998 SADHS’s ones⁶, which indicate that the public health sector is the main supplier of modern contraceptive methods. The inclusion of some private pharmacies that voluntarily signed a

memorandum of agreement (MOA) with the CTMM to provide a full comprehensive family planning service to the variable 'private pharmacies' is a feature unique to the City of Tshwane's health environment and has undoubtedly contributed to the quality and sustainability of family planning service in Tshwane.

In this analysis, sterilization as a modern contraceptive method was purposely left out based on the fact that respondents who are sterilized made such a decision in the past and do not have anymore choice about current method use. Sterilization as a contraceptive method will be dealt with in another report.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

For the first time, the City of Tshwane can claim to have community-based information on the contraceptive use and method choice coverage attained by the family planning services provided by both private and public health sectors. The study demonstrates that children and adults of both sexes in Tshwane in 2004 were relatively mobile for cultural and economic reasons. It also shows that about 60% of women of reproductive age in Tshwane in 2004 use any contraceptive methods to avoid or delay a pregnancy while 40% use no methods. The dominant modern methods, in decreasing order, are injection (52.1%), the pill (16.9%) and condoms (13.1%). Although the current rate of condom use is relatively low it is on the increase and exhibits great differentials between urban and rural districts, and between educated and non-educated respondents. The traditional methods account for only less than two percent and they include abstinence and withdrawal methods.

The study examined two programmatic variables and one community variable of the reproductive health services in Tshwane in 2004 that were likely to affect contraceptive use and method choice. These variables are source of first information on contraception, supply source of contraceptive methods, and district (place of residence) used as a proxy for physical/geographical access to family planning service. The logistic regression analysis indicates that none of the programmatic factors was strong enough to be included into the logistic model and be associated with the outcome variable 'use of any contraception' and as a result, the final model was reduced to individual socio-demographic and community characteristics only. Individual factors (marital status, having a sexual partner, living together with that partner and having a number of living children) and community factor (district) were found to be significantly associated with contraceptive use (binary logistic regression models) while age group, marital status, payment, partner now, partner live, number of living children and district showed a significant association with the outcome variable contraceptive method choice.

The sources of first information on contraception and the sources of contraceptive supply played a role in bringing about the choice of contraceptive methods. Nurses as the first source of information on contraception, had a positive effect on the choice of IUD method rather than the injection method. The effect of physicians as first source of information on contraception in the choice of injection rather than the pill was somewhat mitigated due to the fact that in Tshwane these methods are primarily dealt with by the family planning nurses. A positive and promising result is the dominant supply of IUD rather than the pill or rather than injection by the private sector, compared to the public sector. Private pharmacies had a positive effect on method choice, especially for condom use.

From a methodology viewpoint, there is a great need to properly and purposely define the different dimensions of the key variables availability or accessibility so that specific aspects of family planning service are properly assessed and consequently, assisted with a relevant intervention programme.

5.2. RECOMMENDATIONS

The inclusion of the identified individual and community predictors into the next study protocols is recommended to develop a well-targeted family planning programme that will increase the prevalence rate of modern contraceptive use and method choice in Tshwane. These predictors are marital status, having a sexual partner at the time of the survey, living together with that partner, working or employment status, number of living children, district, source of first information on contraception and source of contraceptive supply.

Future studies to measure the effects of availability of reproductive health services on the use of modern contraception and method choice should consider the inclusion of at least ten programmatic and ten community factors into the measurement tools. The researcher also recommends the inclusion of a demographer and a biostatistician in the study team to help to fine-tune the protocol as well as running a test-run before carrying out the actual study. Since the study did not collect enough district information to allow more relevant and refined analysis, it is recommended that other variables such as the number of health

professionals, service delivery points and population per district are collected in future studies.

With more significant use of condoms and injection instead of the pill in rural as opposed to urban districts (multinomial model), there is a need for comprehensive strategizing of these methods targeting urban districts as well as a strategy that sustains the interest in the two top short-term modern methods, particularly the pill and injection in both rural and urban districts. One of the proposed interim strategies is the introduction of reproductive health mobile clinics for rural districts so that rural women have, equally, an increased access to reproductive health care services and an urban IEC (Information, Education and Communication) campaign.

It is recommended that a unified strategy of condom use targeting specifically women aged 35-49 years be designed to avoid the observed dichotomous use of condom-contraception and condom-prevention for HIV/AIDS/STI, and to ensure that there is congruence and clarity in the message sent. The resistance to condom use amongst older women could be related to the stigma associated with its use by the society and the old health policy. Both tended to regard condom users as promiscuous people and carriers of STIs. This perception can be rectified by a balanced mix of contraceptive and behavioral questions in a single study or programme and by conducting an intensive IEC campaign about the dual benefit of condom use within a single destigmatizing and supportive family planning and STIs prevention environment.

Since condom use was quite low among respondents with no formal education and the researcher is not sure if this reflects their inability to negotiate safer sex or gender inequality in the relationship, it is recommended that further investigation be initiated in this regard, and that in the meantime life skills and assertiveness/empowering programme targeting all women with no formal education or primary educational level only attending reproductive health services be instituted accordingly.

About 40% of respondents in Tshwane in 2004 are not using any contraception to avoid or delay pregnancy and non-users are highest in district 4 (rural) followed by district 1 (urban). These patterns indicate that while reducing non-use among rural women remains a challenge, countering the increasing number of non-users among urban women and addressing some of the reported reasons for non-use are major challenges for Tshwane

reproductive health programme managers. The CTMM and its partners should develop a reproductive health service for adolescents and youth that would address the problems related to the non-use of contraceptives among this group, improve the contraceptive use of all contraceptives and sustain the high level of condom use to reduce both pregnancy and HIV/AIDS/STIs transmission.

The study recommends that reasons such as dislike of contraception, fear of side effects, health reasons, lack of information on specific contraceptive methods and perception of low pregnancy risk (no sexual partner now or partner in prison reflecting sporadic sexual activity), which account for about 46% of the reasons for non-use of contraception, be the subject of a specifically designed IE & C reproductive health programme aimed at reducing such a proportion within a given period of time (establishment of reproductive health hot-line 24 hour service, printing of brochures in all languages explaining the benefits, side-effects and solutions related to each modern contraceptive method, training of dedicated core-group of professionals to handle any queries and provide a face-to-face consultation). Additional attention should be given to informing men about the health and other benefits of using contraception and identifying women in need of contraception.

The profile of the pattern of the preferred method choice is similar to the one of the current contraceptive use with the exception of the female condom. About 13% of current users of any contraceptive methods want to change the method they are currently using to some other method. With the exception of the female condom in the public sector, all the preferred methods are available in both the public and private sectors and can be provided with additional minimal cost.

Husband's disapproval and the non availability of the female condom in the public reproductive health facilities are some of the reasons of non-use of the preferred method. Indeed, in 2004 the female condom was neither part of the service routinely offered in such settings in Tshwane nor included in the Gauteng reproductive health policy. These findings lend further support to the recommendations for the inclusion of the female condom among modern contraceptive methods in the future Gauteng reproductive health policy. It is recommended that a reproductive health committee be established to promote further research efforts in the area of male attitudes and behaviour towards contraception and fertility in Tshwane.

Considering that district information was not enough to carry out a comprehensive analysis that would have allowed a sound comparison of districts, it is recommended that the Health Care Division and the Urban Research and Strategic Direction of the City of Tshwane start the preparations for the collection of needed information for proper planning and management of each health district. This should be carried out before the next reproductive health survey.

Finally, it is recommended that a similar study be repeated every five years to monitor trends in the use of contraception and method choice, the implementation of the most recent policies and the assessment of their impact.

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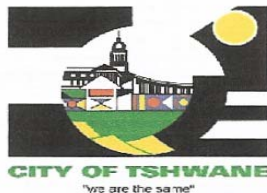
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APPENDIX



SOCIAL DEVELOPMENT: Health Care

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0001

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Sammy Marks Building, 1st Floor, Cnr Vermeulen and Prinsloostr

Informed consent form

Title of the study: Reproductive health survey of women aged 15-49 years and nested case control study of high risk young mothers (15-19 years) in the City of Tshwane Metropolitan Municipality in June 2004.

Investigator: Miss/Mrs.....

Tel. No.:.....

On behalf of the Department of Health Care of the City of Tshwane Metropolitan Municipality.

Note: Participants in this study will be required to read, understand the content of this form and then sign it before the interview starts. For women who cannot read/write, the interviewer will help explaining the content of this form and getting their informed consent by applying their finger print at the right bottom corner of the form.

Purpose of the study

This is the study of use of contraception, pregnancy and pregnancy related complications in all women aged 15-49 years old living in the City of Tshwane, with particular focus on teenage pregnancy and its health and social consequences. The purpose of this study is to identify potential risk factors involved in such situations.

Procedure: If you agree to participate, you will be asked some questions about yourself, your pregnancy and family planning history, and your quality of life. This will take about 25 minutes.

Importance of the collected information: The collected information will assist the department of health of the City of Tshwane Metropolitan Municipality to adjust the quality of its reproductive health program to be more responsive to the needs of its target population.

Benefits and Risks involved in participating in this study: There may be no individual direct benefit from taking part in the study but collectively, the study will help providing a more effective reproductive health service to all women who will be using these services such as availability of the preferred methods, friendly services, easy access to services, etc. There is no risk involved.

Confidentiality

All information obtained will be confidential and used solely for the study purposes. Your identity will also be protected and kept totally confidential insofar as the law permits.

Right to refuse: You should not agree to take part in the interview unless if you are happy with it. Indeed, your participation in the study is entirely voluntary and you are equally free to refuse to take part in it.

Respondent's confirmation / Consent

You are kindly invited to participate in this study. This consent form is to help you deciding whether you would like to take part in the interview. Before accepting to participate in the interview, make sure that you fully understand the purpose of the study. You may even ask to look at the content of the questionnaire.

If there are some aspects of the questionnaire that are not clear to you, please, feel free to ask the field worker to clarify them for you.

If after reading this form or being given a full explanation you have voluntarily decided to participate in the interview for this study, please, put your signature in the provided space below.

For the interviewee: I _____ have read and understood the purpose of the study and give my informed consent to participate in the interview.

Signature / finger print: _____ Date: / /

Name of the Interviewer: _____ Signature: _____

Questionnaire (English version)

CITY OF TSHWANE METROPOLITAN MUNICIPALITY

SOCIAL DEVELOPMENT DEPARTMENT: HEALTH CARE SERVICES

PRIMARY HEALTH CARE SURVEY: REPRODUCTIVE HEALTH – 2004

SECTION A. HOUSEHOLD IDENTIFICATION

1. HEALTH SUB-DISTRICT: _____
2. WARD NO: _____
3. ENUMERATION AREA: _____
4. HOUSEHOLD NO: _____
5. ADDRESS: _____

6. NAME OF HOUSEHOLD HEAD: _____
7. PRIMARY INTERVIEW 1 = YES 2 = NO

SECTION B. HOUSEHOLD VISIT RECORD

VISIT RECORD	1	2	3
DATE			
TIME OF VISIT			
INTERVIEWER'S NAME			
SUPERVISOR'S NAME			
RESULT*			

***RESULT CODES:**

1. COMPLETED
2. NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT (NO ADULT AT HOME)
3. NO ELIGIBLE RESPONDENT
4. REFUSED
5. POSTPONED
6. OTHER (SPECIFY): _____

SUPERVISION, EDITING AND VERIFYING

	SUPERVISED AND FIELD-EDITED BY	OFFICE-EDITED BY	OFFICE-CHECKED BY
NAME			
SIGNATURE			
DATE			

SECTION C. HOUSEHOLD COMPOSITION TABLE

Now we would like some information about the people who usually live in your household or who are staying with you now.

Line no	001	002	003	004	005	006
	Enter the first and last names of every individual living in the household at the time of the survey. Begin with the head of the household (hh).	What is (NAME)'s residential status? 1. Resident 2. Visitor	What is their sex? 1. Male 2. Female	What is their age (in completed years)? (Write 00 if under one year.)	Does (NAME) receive a child maintenance grant from the government?	Circle the line number of women aged 15-49 years.
01		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	01
02		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	02
03		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	03
04		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	04
05		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	05
06		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	06
07		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	07
08		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	08
09		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	09
10		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	10
11		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	11
12		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	12
13		1 2	1 2	/ _ / _ /	Yes No DK 1 2 8	13

007
1. Total number of persons in the household: ____ / ____
2. Total number of women: ____ / ____
3. Total number of eligible women (15-49): ____ / ____
4. Total number of children under 5 years: ____ / ____
5. Total number of eligible children (0-39 months): ____ / ____

CITY OF TSHWANE METROPOLITAN MUNICIPALITY

SOCIAL DEVELOPMENT DEPARTMENT: HEALTH CARE SERVICES

PRIMARY HEALTH CARE SURVEY: REPRODUCTIVE HEALTH – 2004

PART I. INDIVIDUAL INTERVIEW SCHEDULE

QUESTIONNAIRE NUMBER: ____/____/____/____/

SECTION A. INDIVIDUAL IDENTIFICATION

1. HEALTH SUB-DISTRICT: _____
2. WARD NO: _____
3. ENUMERATION AREA: _____
4. HOUSEHOLD NO: _____
5. NAME OF RESPONDENT: _____

SECTION B. INDIVIDUAL VISIT RECORD

VISIT RECORD	1	2	3
DATE			
TIME OF VISIT			
INTERVIEWER'S NAME			
SUPERVISOR'S NAME			
RESULT*			

***RESULT CODES:**

1. COMPLETED
2. PARTIALLY COMPLETED
3. POSTPONED
4. NOT AT HOME
5. REFUSED
6. OTHER (SPECIFY): _____

LANGUAGE									
LANGUAGE OF QUESTIONNAIRE:	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="width: 30px; height: 20px;"></td><td style="width: 30px; height: 20px;"></td></tr> <tr><td style="width: 30px; height: 20px;"></td><td style="width: 30px; height: 20px;"></td></tr> <tr><td style="width: 30px; height: 20px;"></td><td style="width: 30px; height: 20px;"></td></tr> <tr><td style="width: 30px; height: 20px;"></td><td style="width: 30px; height: 20px;"></td></tr> </table>								
LANGUAGE OF INTERVIEW:									
HOME LANGUAGE OF RESPONDENT:									
TRANSLATOR USED (YES = 1; NO = 2).....									
LANGUAGE CODES									
01 ENGLISH 02 AFRIKAANS 03 IsiXHOSA 04 IsiZULU 05 IsiNDEBELE 06 SESOTHO 07 SETSWANA 08 SEPEDI 09 SiSWATI 10 TsiVENDA 11 XiTSONGA									

SUPERVISION, EDITING AND VERIFYING

	SUPERVISED AND FIELD-EDITED BY	OFFICE-EDITED BY	OFFICE-CHECKED BY
NAME			
SIGNATURE			
DATE			

SECTION I. BACKGROUND CHARACTERISTICS OF RESPONDENT

101. It is important in this study to know your exact age. How old were you on your last birthday?

AGE: ___/___ DON'T KNOW.....98

102. In what month and year were you born?

MONTH: ___/___ DON'T KNOW MONTH.....98

YEAR: ___/___/___ DON'T KNOW YEAR.....9998

103. Do you consider yourself to be Black, White, Coloured or Asian?

Black.....1 White.....2 Coloured.....3 Asian.....4

Other (specify): _____

IF RESPONDENT IS UNDER 15 OR OVER 49 YEARS, TERMINATE THE INTERVIEW. THANK RESPONDENT FOR HER TIME AND FOLLOW INSTRUCTIONS FOR SELECTING THE NEXT RESPONDENT.

104. Have you ever attended school?

1.....Yes 2.....No (**IF NO, SKIP TO 106.**)

105. What is the highest level/grade you passed (completed) at school or university?

LESS THAN ONE YEAR COMPLETED.....00
 SUB A/CLASS 1.....01
 SUB B/CLASS 2.....02
 STANDARD 1.....03
 STANDARD 2.....04
 STANDARD 3.....05
 STANDARD 4.....06
 STANDARD 5.....07
 STANDARD 6.....08
 STANDARD 7.....09
 STANDARD 8.....10

- STANDARD 9.....11
STANDARD 10.....12
FURTHER STUDIES INCOMPLETE.....13
DIPLOMA/OTHER POST-SCHOOL COMPLETE.....14
FURTHER DEGREE COMPLETE.....15
106. Are you currently attending school? Yes.....1 (**SKIP TO 108.**) No.....2
107. What was the main reason you stopped attending school?
COULD NOT PAY SCHOOL FEES.....1 NEEDED TO EARN MONEY.....2
GOT PREGNANT.....3 TO CARE FOR YOUNGER CHILDREN....4
GOT MARRIED.....5 FAMILY NEEDED HELP AT HOME.....6
DID NOT LIKE SCHOOL.....7 DID NOT PASS ENTRANCE EXAMS.....8
OTHER (SPECIFY): _____
DON'T KNOW.....98
108. Now I would like to talk to you about your occupation. Aside from doing their household work, many women have jobs for which they receive payment in cash or in kind. In the last 12 months, did you do any work for which you received payment either in cash or in kind?
Yes.....1 No.....2 (**SKIP TO 201.**)
109. During the last 12 months, how many months did you work? /___/___/ (If less than 1 month, record "00".)
Don't know.....98
110. What is your occupation, that is, what kind of work do you do?
- IF RETIRED OR UNEMPLOYED, WRITE THE MOST RECENT OCCUPATION; IF STUDENT, WRITE STUDENT; IF NEVER WORKED, WRITE NEVER WORKED.
111. How much do you usually earn for this work?
PROBE: IS THIS BY THE HOUR, BY THE DAY, BY THE WEEK OR BY THE MONTH?
Per hour: /___/___/ Per day: /___/___/
Per week: /___/___/ Per month: /___/___/
DON'T KNOW.....99998
- SECTION II. PREGNANCY AND CHILD HEALTH**
201. Have you ever been pregnant even if the pregnancy lasted for a short while?
Yes.....1 No.....2 (**SKIP TO 211.**)
202. How old were you when you first became pregnant? Age: /___/___/
203. Were you at school when you first became pregnant? Yes.....1 No.....2 Not sure/Don't know.....8
204. Now I would like to ask you some questions about the number of births. Have you ever had a live birth?
Yes.....1 No.....2 (**SKIP TO 211.**)
205. How many children have you given birth to who are living with you now? Sons: _____ Daughters: _____
206. How many children have you given birth to who are living somewhere else? Sons: _____ Daughters: _____
207. Interviewer: Sum answers to 205 and 206. Then ask: Altogether then, you have _____ living children?
Yes: /___/ No: /___/ (**CORRECT ANSWERS ABOVE**) (Sum)
208. Have you ever given birth to a child who later died, even if he/she only lived for a short time?
Yes.....1 No.....2 (**SKIP TO 210.**)
209. How many children have you given birth to that later died? Sons: /___/ Daughters: /___/
210. In addition to those pregnancies that ended in live births, how many pregnancies have you had that ended in a stillbirth, miscarriage or an abortion (including even those pregnancies that lasted only a short time)?
Record number: /___/___/ (**If none, record "00".**)

211. Are you pregnant now? Yes.....1 No.....2 (**SKIP TO 214.**) Not sure.....8 (**SKIP TO 214.**)
212. How many months pregnant are you? Months /__/_/ Don't know.....98
213. At the time you became pregnant with this pregnancy, did you want to become pregnant then, or did you want to wait until later, or you did not want to have any more children at all?
Then.....1 Later.....2 Did not want more children3
214. When did you have your last live birth? Please give me the date.
MONTH: /__/_/ DON'T KNOW.....98
YEAR: / / / / / DON'T KNOW.....9998
IF DATE NOT GIVEN, PROBE:
215. How long ago was your last live birth?
YEARS: /__/_/ MONTHS: /__/_/
216. How long ago was your next to last live birth?
YEARS: /__/_/ MONTHS: /__/_/

IF THE LAST AND NEXT TO LAST LIVE BIRTHS (IN QUESTIONS 214 & 215) OCCURRED WITHIN THE PAST THREE YEARS (SINCE MARCH 2001), GO TO 217 - 261) OTHERWISE SKIP TO 262.

Now I would like to ask you some questions about your pregnancies and the health of all your children born in the last three years (from March 2001). We will talk about one child at a time.			
		LAST BIRTH	NEXT TO LAST BIRTH
217.	What is the name given to the child?	_____ NAME	_____ NAME
218.	Is (NAME) still alive?	Alive....1 Dead.....2	Alive.....1 Dead.....2
219.	At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u> , did you want to wait until <u>later</u> , or did you want <u>no more</u> children at all?	Then.....1 Later.....2 No more.....3	Then.....1 Later.....2 No more.....3
220.	When you were pregnant with (NAME), did you go for antenatal care? If no, record no one and SKIP TO 225. If yes, whom did you see? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	Medical doctor.....01 Nurse/midwife.....02 Traditional birth attendant.....03 Relative/friend.....04 Other:06 (SPECIFY) No one.....96 (SKIP TO 224.)	Medical doctor.....01 Nurse/midwife.....02 Traditional birth attendant....03 Relative/friend.....04 Other:06 (SPECIFY) No one.....96 (SKIP TO 224.)
221.	Where did you go most of the time? PROBE FOR THE ONE PLACE VISITED MOST OFTEN.	Public hospital.....01 Private hospital.....02 Public clinic.....03 Private clinic/surgery.....04 Private midwife's office.....05 Other:96 (SPECIFY)	Public hospital.....01 Private hospital.....02 Public clinic.....03 Private clinic/surgery.....04 Private midwife's office.....05 Other:96 (SPECIFY)
222.	How many months pregnant were you when you first received antenatal care?	Months: /__/_/ Don't know.....98	Months: /__/_/ Don't know.....98

223.	How many times did you receive antenatal care during this pregnancy?	Number of times: /_/_/_/ Don't know.....98	Number of times: /_/_/_/ Don't know.....98
224.	Where did you give birth to (NAME)? NAME THE PLACE.	Specify if it was: Home.....11 Public facility Hospital.....21 Community health centre.....22 Maternal obstetric unit (MOU) ...23 Clinic.....24 Other.....(26) (Specify) Private facility Hospital.....31 Clinic32 Other.....(36) (Specify)	Specify if it was: Home.....11 Public facility Hospital.....21 Community health centre...22 Maternal obstetric unit (MOU)....23 Clinic.....24 Other.....(26) (Specify) Private facility Hospital.....31 Clinic32 Other.....(36) (Specify)
225.	Who assisted with the delivery of (NAME)? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING. Anyone else?	Medical doctor.....01 Nurse/midwife.....02 Traditional birth attendant....03 Relative/friend.....04 Other:06 (SPECIFY) No one.....96	Medical doctor.....01 Nurse/midwife.....02 Traditional birth attendant....03 Relative/friend.....04 Other:06 (SPECIFY) No one.....96
226.	Was (NAME) weighed at birth?	Yes.....1 No.....2 (SKIP TO 229.) Don't know.....3 (SKIP TO 229.)	Yes.....1 No.....2 (SKIP TO 229.) Don't know.....3 (SKIP TO 229.)
227.	How much did (NAME) weigh? RECORD WEIGHT FROM HEALTH CARD IF AVAILABLE.	GRAMS FROM CARD.....1 /_/_/_/_/_/ GRAMS FROM RECALL.....2 /_/_/_/_/_/ DON'T KNOW.....9998	GRAMS FROM CARD.....1 /_/_/_/_/_/ GRAMS FROM RECALL.....2 /_/_/_/_/_/ DON'T KNOW.....9998
228.	Has your period returned since the birth of (NAME)?	YES.....1 (Skip to 230.) NO.....2 (Skip to 231.)	
229.	Did your period return after the birth of (NAME) and your next pregnancy?		YES1 NO.....2 (Skip to 231.)
230.	For how many months after the birth of (NAME) did you <u>not</u> have a period?	Months /_/_/_/ Don't know98	Months /_/_/_/ Don't know98
231.	Check with 211. RESPONDENT PREGNANT?	NOT PREGNANT (Go to 234.) PREGNANT OR UNSURE (Go to 235.)	

232.	Have you resumed sexual intercourse since the birth of (NAME)?	Yes.....1 No.....2 (Skip to 234.)																																											
233.	For how many months after the birth of (NAME) did you <u>not</u> have sexual intercourse?	Months /__/_/ Don't know98	Months /__/_/ Don't know98																																										
234.	Did you ever breastfeed (NAME)?	Yes1 No.....2 (Skip to 239.)	Yes.....1 No.....2 (Skip to 239.)																																										
235.	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD "00" HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY 00 Hours /__/_/ Days/___/___/	IMMEDIATELY 00 Hours /__/_/ Days/___/___/																																										
236.	Check 219. Child alive?	Alive /___/(Go to 237.) Dead /___/(Go to 256.)	Alive /___/(Go to 237.) Dead /___/(Go to 256.)																																										
237.	Are you still breastfeeding (NAME)?	Yes.....1 No.....2	Yes.....1 No.....2																																										
238.	For how many months did you breastfeed (NAME)?	Months: /__/_/ Don't know..... 98	Months: /__/_/ Don't know..... 98																																										
239.	Would you say that (NAME) is always healthy?	Yes.....1 No.....2 Don't know.....3	Yes.....1 No.....2 Don't know.....3																																										
240.	Did (NAME) in the past three years ever have: Whooping cough? Measles? Polio? Diphtheria? Diarrhoea? Severe malnutrition? Others _____ (SPECIFY)	<table border="0"> <tr> <td>Yes</td> <td>No</td> <td>Don't know</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> </table>	Yes	No	Don't know	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	<table border="0"> <tr> <td>Yes</td> <td>No</td> <td>Don't know</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> </table>	Yes	No	Don't know	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Yes	No	Don't know																																											
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1	2	3																																											
241.	Has (NAME) been ill with a fever at any time in the last four weeks?	Yes.....1 No.....2 Don't know.....8	Yes.....1 No.....2 Don't know.....8																																										
242.	Has (NAME) been ill with a cough at any time in the last four weeks?	Yes.....1 No.....2 (Go to 248.) Don't know.....8 (Go to 248.)	Yes.....1 No.....2 (Go to 248.) Don't Know.....8 (Go to 248.)																																										
243.	When (NAME) was ill with a cough, did (s)he breathe faster than usual with short, rapid breaths?	Yes.....1 No.....2 Don't know....8	Yes.....1 No.....2 Don't know....8																																										
244.	For how many days did the cough last? IF LESS THAN 1 DAY, RECORD "00".	Days /__/_/ Don't know..... 98	Days /__/_/ Don't know..... 98																																										

245.	CHECK Q243 AND Q244: FEVER OR COUGH?	Yes in 243 or 244 (Go to 246.) Other (Skip to 250.)	Yes in 243 or 244 (Go to 246.) Other (Skip to 250.)
246.	Did you seek advice or treatment for the fever or cough?	Yes.....1 No.....2 (Skip to 250.)	Yes.....1 No.....2 (Skip to 250.)
247.	Where did you seek advice or treatment? PROBE: Anywhere else?	Public facility Hospital.....11 Community health centre...12 Clinic.....13 Other _____ (16) (Specify) Private facility Hospital.....21 Clinic22 Other _____ (26) (Specify)	Public facility Hospital.....11 Community health centre...12 Clinic.....13 Other _____ (16) (Specify) Private facility Hospital.....21 Clinic22 Other _____ (26) (Specify)
248.	Has (NAME) had frequent liquid, watery or loose stools in the last four weeks?"	Yes.....1 No.....2 Don't know.....3	Yes.....1 No.....2 Don't know.....3
249.	Has (NAME) had (local terms for diarrhea: _____, _____)?	Yes.....1 No.....2 Don't know.....3 (If "No" or "Don't know" for 248 and 249, go to 252.)	Yes.....1 No.....2 Don't know.....3 (If "No" or "Don't know" for 248 and 249, go to 252.)
250.	<i>If "frequent liquid, watery or loose stools or local term for diarrhea", ask:</i> For how many days did (NAME) have liquid/watery/loose stools?	Days / ____ / ____ / Don't know..... 98	Days / ____ / ____ / Don't know..... 98
251.	Has (NAME) been very thin in the last four weeks?	Yes.....1 No.....2 Don't know.....3	Yes.....1 No.....2 Don't know.....3
252.	Has (NAME) had swollen legs or feet in the last four weeks?	Yes.....1 No.....2 Don't know.....3	Yes.....1 No.....2 Don't know.....3
253.	Has (NAME) had "kwashiorkor" (local term: _____) in the last four weeks?	Yes.....1 No.....2 Don't know.....3	Yes.....1 No.....2 Don't know.....3
254.	Has (NAME) had a skin rash in the last three years?	Yes.....1 No.....2 Don't know.....3	Yes.....1 No.....2 Don't know.....3
255.	What did the doctor/nurse say it was?	_____	_____
256.	A. What did the doctor say (NAME) died from? Record verbatim the symptoms and signs given by the respondent. B. Also ask for a medical report and record the diagnosis.	A. _____ _____ _____ B. _____ _____ _____	A. _____ _____ _____ B. _____ _____ _____
257.	How old was (NAME) when he/she passed away? PROBE: Date of death (DOD). Check with death certificate.	Age in months: / ____ / ____ / DOD: _____ Don't know.....98	Age in months: / ____ / ____ / DOD: _____ Don't know.....98
258.	Before you got pregnant with	Yes.....1 (Go to 259.)	Yes.....1 (Go to 259.)

	(NAME), were you aware of the government child support grant?	No.....2 (Go to 261.) Don't know.....3 (Go to 261.)	No.....2 (Go to 261.) Don't know.....3 (Go to 261.)
259.	Did the possibility of getting a child grant from the government influence your timing and decision to have (NAME)?	1..... Yes 2..... No (Skip to 262.)	1..... Yes 2..... No (Skip to 262.)
260.	If yes, probe how did it influence the decision – with a short explanation.	_____ _____ _____	_____ _____ _____
261.	Could the possibility of getting a child grant from the government influence your timing and decision to become pregnant?	1..... Yes 2..... No (Skip to 262.)	

262. In your opinion, how old should a woman be before she has her first child?

Age (in years) / __/ __/ Don't know.....98

263. Can it harm a young woman's health if she has her first child when she is less than 20 years or not?
Can be harmful.....1 Does not affect.....2 Not sure/Don't know.....3

SECTION III. FERTILITY REGULATION

- 301.** Now I would like to talk to you about family planning. There are various ways a couple or an individual can delay or avoid a pregnancy. Do you know or have you heard of any of these family planning methods?
 Yes.....1 No.....2 (SKIP TO 303.)

RECORD RESPONSES TO 302 –304 IN THE TABLE BELOW.

- 302.** What family planning methods do you know or have you heard of? PROBE: Any other?
 CIRCLE CODE 1 (YES) IN COLUMN [A] FOR EACH METHOD THE RESPONDENT MENTIONS.

- 303.** FOR EACH METHOD NOT CIRCLED IN COLUMN [A] ASK: Just to be sure, have you ever heard of
 (METHOD)? CIRCLE RESPONSE IN COLUMN [B].

Methods	[A] 302 Knowledge (spontaneous)	[B] 303 Knowledge (prompted)		[C] 304 Ever used		[D] 305 Current use	
	Yes	Yes	No	Yes	No	Yes	No
01 Pill. Women can take a pill every day.	1	2	3	1	2	01	2
02 Condom. Men can put a rubber sheath on their penis during sexual intercourse.	1	2	3	1	2	02	2
03 Vaginal methods: diaphragm, foam, jelly. Women can place a sponge, suppository, diaphragm, jelly or cream inside themselves before intercourse.	1	2	3	1	2	03	2
04 Injections. Women can have an injection by a doctor or nurse, which stops them from becoming pregnant for several months.	1	2	3	1	2	04	2
05 IUD. Women can have a loop or coil placed inside them by a doctor or nurse.	1	2	3	1	2	05	2
06 Female sterilisation Tie the tubes. Women can have an operation to avoid having any more babies.	1	2	3	1	2	06	2
07 Male sterilisation. Men can have an operation to avoid making women pregnant.	1	2	3	1	2	07	2
08 Rhythm, calendar method. Every month that a woman is sexually active she can avoid having sexual intercourse on the days of the month she is most likely to get pregnant.	1	2	3	1	2	08	2
09 Withdrawal. Men can be careful and pull out before climax.	1	2	3	1	2	09	2
10 Abstinence. Women can abstain from sexual intercourse.	1	2	3	1	2	10	2
11 Herbs. Women use natural herbs or Dutch remedies to avoid pregnancy.	1	2	3	1	2	11	2
12 Other. Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	1	2	3	1	2	12	2
90 not using							

304. For each method circled "Yes" in column [A] or column [B] ask:
Have you ever used: _____
(Specify.)
CIRCLE RESPONSE IN COLUMN [C].
305. Are you currently using some family planning method or doing something to avoid pregnancy?
Yes.....1 No.....2 (**SKIP TO 307.**)
306. What is that method?
WRITE NAME OF THE METHOD BELOW AND CIRCLE THE CODE FOR THAT METHOD IN
COLUMN [D].
METHOD: _____
IF METHOD 06 OR 07 IS CIRCLED IN COLUMN [D] OF TABLE I ABOVE, **SKIP TO 310, OTHERWISE GO TO 307.**
307. If it were entirely up to you, what would you prefer to use now your present method or some other methods?
Present Method.....1 (**SKIP TO 310**)
No Method.....2 (**SKIP TO 314**)
Some other Method...3
308. What method would you rather use?
Pill01
Condom.....02
Vaginal methods..... 03
Injection..... 04
IUD..... 05
Female sterilization..... 06
Male sterilization..... 07
Rhythm.....08
Withdrawal..... 09
Abstinence..... 10
Other (specify)11
309. Why are you not using that method now?

310. Now I have a few questions about the family planning you are using at this time. Since you started using your present method, have you ever stopped using it for more than one month?
Yes.....1; (PROBE): Why?

No.....2;
Not sure/does not know.....8
311. How long have you been using your present method (without interruption this time)?
YEARS _____; MONTHS _____
INTERVIEWER: CHECK TO ENSURE ANSWER IS CONSISTENT WITH 214
312. Have you had any problems or difficulties with your present method? Yes.....1; No.....(**SKIP TO 314**)
313. What problems did you have?

AFTER ASKING 313, GO TO 320?

314. LOOK AT 211 (Are you pregnant now?) AND MARK THE APPROPRIATE CODE BELOW THEN FOLLOW THE SKIP INSTRUCTIONS

1. Code 1 (Yes) is circled in 211 (**SKIP TO 317**)
2. Code 2 (No) or 8 (Not sure) is circled in 211 ask;

315. What is the main reason that you are not using any family planning method to avoid or postpone pregnancy?

316. Any other reason?

317. If you were to use a family planning method someday, what method would you choose initially?

01 Pill: /___/___/; 02 Condom: /___/___/; 03 Vaginal methods: /___/___/; 04 Injection: /___/___/; 05 IUD: /___/___/ 06 Female sterilization: /___/___/; 07 Male sterilization: /___/___/; 08 Rhythm: /___/___/; 09 Withdrawal: /___/___/ 10 Abstinence: /___/___/; 11 Other: _____(Specify); 88 None/would not use: /___/___/; 98 Not sure/does not know: /___/___/

318. In general do you approve or disapprove of a couple or person using family planning?

Approve.....1 (**SKIP TO 320**) Disapprove.....2
It depends.....3 (**SKIP TO 320**) Not sure/don't know.....4 (**SKIP TO 320**)

319. Why do you disapprove of any couple or person using a family planning method?

320. LOOK AT THE RESPONSES MARKED IN TABLE 1 FOR METHOD 01 (PILL), FOR METHOD 04 (INJECTION), FOR METHOD 05 (IUD), AND FOR METHOD 10 (ABSTINENCE) AND CIRCLE THE APPROPRIATE CODE BELOW. THEN FOLLOW THE SKIP INSTRUCTIONS.

1. Currently using the pill (CODE 01 circled in column [D], **SKIP TO 323**)
2. Ever used but not currently using the pill (Code 1 in column [C] and code 2 in column [D], **GO TO 321**)
3. Knows but never used the pill CODE 1 (Yes) circled in column [A] or CODE 2 (Yes) circled in column [B] and CODE 2 (No) circled in column [C], **SKIP TO 323**)
4. Does not know pill (CODE 3 (No) in column [B], **SKIP TO 324**)

321. You told me that you have used the pill in the past but you are not using this method now. I would like to ask you some questions about the last time that you used the pill. How long did you use the pill without stopping that time?

MONTHS: _____ NOT SURE/DON'T KNOW.....98

322. What was the reason that you stopped using the pill?

323. How often does a woman have to take the pill to keep from getting pregnant?
One pill every day.....1 Other (Specify).....2 Don't know.....3

324. LOOK AT THE RESPONSES MARKED IN TABLE 1 FOR METHOD 04 (INJECTION) AND CIRCLE THE APPROPRIATE CODE BELOW. THEN FOLLOW THE SKIP INSTRUCTIONS.
1. Currently using injection (CODE 04 circled in column [D], **SKIP TO 327**)
 2. Ever used but not currently using injection (CODE 1 (Yes) circled in column [C] and CODE 04 not circled in column [D], **SKIP TO 325**)
 3. Knows but never used injection (CODE 1 (Yes) circled in column [A] or CODE 2 (Yes) circled in column [B] and CODE 2 (No) circled in column [C], **SKIP TO 327**)
 4. Does not know injection (CODE 3 (No) circled in column [B], **SKIP TO 329**)
325. You told me that you have used 'injection' in the past but you are not using it now. I would like to ask you some questions about the last time that you used injection. How long did you use the injection without stopping?
MONTHS: _____ NOT SURE/DON'T KNOW.....98
326. What was the reason that you stopped using injection?

327. Have you experienced any side effects from using injections?
1. Yes: /_____/; 2. No: /_____/ (SKIP TO 329); 8. Not sure/don't know: /_____/ (SKIP TO 327)
328. What side effects did you have?

329. LOOK AT THE RESPONSES MARKED IN TABLE 1 FOR METHOD 05 (IUD) AND CIRCLE THE APPROPRIATE CODE BELOW. THEN FOLLOW THE SKIP INSTRUCTIONS.
1. Currently using the IUD (CODE 05 circled in column [D], **SKIP TO 333**)
 2. Ever used but not currently using the IUD (CODE 1 (Yes) circled in column [C] and CODE 05 Not circled in column [D], **GO TO 331**)
 3. Knows but never used the IUD (CODE 1 (Yes) in column [A] or CODE 2 (Yes) in column [B] and CODE 2 (No) circled in column [C], **SKIP TO 333**)
 4. Does not know IUD (CODE 3 (No) in column [B], **SKIP TO 333**)
330. You told me that you have used the IUD in the past but you are not using it now. I would like to ask you some questions about the last time that you used the IUD. How long did you use the IUD without stopping?
MONTHS: _____ NOT SURE/DON'T KNOW.....98
331. What was the reason that you stopped using the IUD?

332. LOOK AT THE RESPONSES MARKED IN TABLE 1 FOR METHOD 10 (ABSTINENCE) AND CIRCLE THE APPROPRIATE CODE BELOW. THEN FOLLOW THE SKIP INSTRUCTIONS.
1. Currently using abstinence (CODE 10 circled in column [D], **GO TO 336**)
 2. Ever used but not currently using abstinence (CODE 1 (Yes) circled in column [C] and CODE 10 not circled in column [D], **SKIP TO 334**)
 3. Knows but never used abstinence (CODE 1 (Yes) in column [A] or CODE 2 (Yes) in column [B] and CODE 2 (No), **SKIP TO 336**)
 4. Does not know abstinence (CODE 3 circled in column [B]), **SKIP TO 336**)
333. For how much longer do you plan to use abstinence to avoid pregnancy?
Months: /___/___/___ Don't know/Not sure.....998

334. You told me that you and your partner have used abstinence in the past but you are not using this method now. I would like to ask you some questions about the last time that you used abstinence. How long did you abstain from sexual relations that time?
Months: _____; Don't know/Not sure.....998

335. Why did you stop abstaining?

336. Now I would like to ask you some questions about the source of your information on methods to avoid pregnancy. From whom did you first get information about methods to avoid pregnancy?

Mother.....01 Sister.....02 Father.....03 Other Relative.....04
Friend.....05 Teacher.....06 Nurse.....07 Doctor.....08
Poster/Leaflet/Magazine....09 Radio/Television....10 Other _____ (SPECIFY)...86

337. From where did you obtain your method?

PROBE TO IDENTIFY THE MOST FREQUENTLY USED SOURCE AND WRITE THE NAME BELOW.

(NAME OF THE PLACE)		
PUBLIC SECTOR:	PRIVATE MEDICAL SECTOR:	OTHER SOURCE
Government Hospital.....01	Private Hospital/Clinic.....11	Shop.....21
Day Hospital/Clinic.....02	Pharmacy.....12	Church.....22
Community Health Centre...03	Private Dr/Gynaecologist...13	Friend/Relative.....23
Family Planning Clinic....04	Other Private Medical: ____16	Other:.....26
Mobile Clinic.....05	(Specify)	(Specify)
Community Health Worker...06		
Other Public: _____(Specify)...96		

338. Do you know of a place where you can obtain a method of family planning?
Yes.....1 No.....2

339. Where is that?

**IF SOURCE IS HOSPITAL, HEALTH CENTRE, OR CLINIC, WRITE THE NAME OF THE PLACE.
PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE**

PUBLIC SECTOR:	PRIVATE MEDICAL SECTOR:	OTHER SOURCE
Government Hospital.....01	Private Hospital/Clinic.....11	Shop.....21
Day Hospital/Clinic02	Pharmacy.....12	Church.....22
Community Health Centre...03	Private Dr/Gynaecologist...13	Friend/Relative.....23
Family Planning Clinic....04	Other Private Medical: ____16	Other:.....26
Mobile Clinic.....05	(Specify)	(Specify)
Community Health Worker ..06		
Other Public: _____(Specify)...96		

SECTION IV. MARITAL STATUS

Now I am going to ask you some sensitive questions about your marital and sexual relations. All information you give me is confidential.

401. What is your marital status now?

Married.....1 (SKIP TO 405)
Living together.....2 (SKIP TO 405)
Divorced.....3 (SKIP TO 404) AND (SKIP TO 405)
Separated.....4 (SKIP TO 404)
Widowed.....5 (SKIP TO 404)
Single.....6 (SKIP TO 404) AND (SKIP TO 409)

402. Have you ever had a partner? Yes.....1 No.....2 (SKIP TO 404)

403. How old were you when you started living with your partner/ first marriage?
Age (in year) _____ or When (which year) _____
404. At present, do you have a partner? Yes.....1 No.....2 (**SKIP TO 417**)
405. Is your partner living with you or is he away somewhere?
Living with her.....1 Living somewhere else.....2
406. In the last twelve months did he do any work for which he received payment either in cash or kind?
Yes.....1 No.....2 DON'T KNOW.....8 (**IF NO/DON'T KNOW SKIP TO 409**)
407. What is his occupation, that is, what kind of work does he do?

IF RETIRED OR UNEMPLOYED, WRITE THE MOST RECENT OCCUPATION. IF STUDENT, WRITE STUDENT, IF NEVER WORKED, WRITE NEVER WORKED.

-
408. How much does he usually earn for this work?
PROBE: IS THIS BY THE DAY, BY THE WEEK, OR BY THE MONTH:
Per Hour: / _____/;
Per Day: / _____/;
Per Week: / _____/;
Per Month: / _____/
DON'T KNOW.....99998
409. Now I need to ask you some questions about sexual activities in order to gain a better understanding of some health and family planning issues.

How old were you when you first had sexual intercourse?
Age _____ First time when married.....88
410. When was the last time you had sexual intercourse (If ever)?
Never.....1(**SKIP TO 415**) Days ago.....2 Weeks ago.....3
Months ago.....4 Years ago.....5 Before last birth.....6
411. Can you describe your relationship with the person you last had sexual intercourse with?
Marital partner...1; Other regular partner...2; Casual acquaintance...3; Someone just met...4;
Other _____ (Specify)...5
412. The last time you had sex, was a condom used?
Yes.....1 (**SKIP TO 414**); No.....2; DON'T KNOW.....3
413. If not or don't know, what are the reasons why you did not use one? (**RECORD ALL GIVEN REASONS**)
Want children.....01
Perceived low or no risk..... 02
Respondent dislike.....03
Partner dislike.....04
Cultural/Religious prohibition.....05
Did not know condom.....06
Did not know how to use condom....07
Bad previous experience with condom.....08
Other _____ (Specify)....09
414. In the last twelve months how many different partners have you had sexual intercourse with?
Number _____ Don't know.....98

415. Do you know of a place where you can get condom?
Yes.....1 No.....2 (SKIP TO 417)
416. Where is that?
- | | | |
|--------------------------------|--------------------------------|------------------------|
| PUBLIC SECTOR: | PRIVATE MEDICAL SECTOR: | OTHER SOURCE |
| Government Hospital.....01 | Private Hospital/Clinic.....11 | Shop.....21 |
| Day Hospital/Clinic02 | Pharmacy.....12 | Church.....22 |
| Community Health Centre...03 | Private Dr/Gynaecologist...13 | Friend/Relative.....23 |
| Family Planning Clinic.....04 | Other Private Medical_____16 | Other_____26 |
| Mobile Clinic.....05 | (Specify) | (Specify) |
| Community Health Worker...06 | | |
| Other Public: _____(Specify)96 | | |
417. Now I would like to talk with you about HIV/AIDS. Have you ever heard of an illness called HIV/AIDS?
Yes.....1; No.....2; Don't Know.....8 (IF NO /DON'T KNOW, TERMINATE INTERVIEW)
418. From whom did you first get information about HIV/AIDS?
Partners ...01; Radio...02; Relatives...03; Friends...04; Health worker/Nurse/Doctor...05; News papers....06; Television.....07; Pamphlets.. 08; Other_____ (SPECIFY)..09
419. Do you know how HIV/AIDS is transmitted?
Yes.....1; No.....2; Don't Know..8 (IF NO /DON'T KNOW SKIP TO 421)
420. If yes, how is HIV/AIDS transmitted?
- | | Spontaneous Yes | Prompted Yes | No |
|---|-----------------|--------------|----|
| Through insect bite | 1 | 2 | 3 |
| Sharing glass, cups, and other utilities | 1 | 2 | 3 |
| Kissing | 1 | 2 | 3 |
| Sexual intercourse | 1 | 2 | 3 |
| Blood transfusion | 1 | 2 | 3 |
| Sharing needles or other piercing equipment | 1 | 2 | 3 |
| Mother to infant during pregnancy, labour, delivery | 1 | 2 | 3 |
| And/or as a result of breast feeding | | | |
| Others_____ (Specify) | 1 | 2 | 3 |
421. Do you think that a person infected with the AIDS virus always shows symptoms, or can such a person look Perfectly healthy?
- Always shows symptoms.....1
Can look healthy.....2
Don't know.....3
422. Have you ever been counselled and tested for HIV?
Yes.....1; No.....2; Don't know.....8
423. Have you ever voluntarily requested to be tested for HIV/AIDS?
Yes...1; No.....2; Don't know.....8 (IF NO /DON'T KNOW, SKIP TO 425)
424. Were you given the blood test results?
Yes.....1; No...2; Don't know.....8
425. In your opinion, should people diagnosed HIV positive be told about their status?
Yes.....1 No.....2 Don't know.....8

426. Should HIV positive people tell their partners about their status? Yes.....1; No...2; Don't know...8

427. Do you know your HIV status? Yes...1; **(END INTERVIEW)**; No.....2

428. Would you like to know your status? Yes.....1 No.....2 Don't know.....8

429. If not/don't know, what is the main reason why you do not want to know?

430. Any other reason?

END OF INTERVIEW.