THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

CHARACTERISTICS AND REPRODUCTIVE HEALTH NEEDS OF FEMALE 'RURAL TO URBAN' MIGRANTS IN ZAMBIA.

M.MED

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DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT AND FOR THE DEGREE OF MASTER OF MEDICINE IN OBSTETRICS AND GYNAECOLOGY

2002

DEDICATION

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TO ALL THOSE WHO CARE ABOUT IMPROVING REPRODUCTIVE HEALTH

SERVICES IN ZAMBIA

ACKNOWLEDGEMENTS

STATEMENT

I HEREBY STATE THAT THIS DISSERTATION IS ENTIRELY THE RESULT OF

MY OWN PERSONAL EFFORT. THE VARIOUS SOURCES TO WHICH I AM

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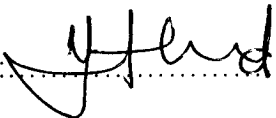
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DR YUSUF AHMED (SUPERVISOR)

APPROVAL

THIS DISSERTATION OF DR SEBASTIAN CHINKOYO IS APPROVED AS

FULFILLING PART OF THE REQUIREMENTS FOR THE AWARD OF

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ABSTRACT

Background
Rural-to-urban migration has been a powerful trend in developing countries. When people migrate from rural to urban areas, they face problems of dislocation and need to adapt to new, often difficult surroundings. Consequently, they face many risks to their health, including their reproductive health. Few published analyses of DHS data have examined how migrants from rural areas differ from other residents in urban areas in their demographic and socioeconomic characteristics and reproducti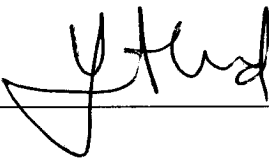ve health needs. In Zambia, little is known of the reproductive intentions, knowledge regarding contraceptive use, and access to and use of existing reproductive health services of rural-to-urban migrants. We undertook this study to examine these issues.

Methods
Use was made of data from a sample of 8021 women aged 15-49 who were interviewed in the 1996 ZDHS. 1050 urban non-migrants and 247 recent rural-to-urban migrants were distinguished, from among the 3001 urban residents, by a standard answer regarding length of time spent in the current residence. Data on these migrants had not previously been published. Recent rural-to-urban migrants were those who had migrated to the urban area less than 4 years ago. Information regarding personal characteristics, reproductive history, knowledge and use of family planning methods, antenatal and delivery care and fertility preferences was extracted from the 1996 ZDHS data set, analyzed and compared between the two groups: urban non-migrants and recent rural-to-urban migrants. Analysis utilised standard descriptive and comparative statistical methods (Student's t test and the Z statistic to show differences between groups).

Results
The two groups differed in their personal characteristics and reproductive health behaviour. There were more illiterate women (42% vs 32%; p< 0.01) and fewer women with secondary or higher education (26% vs 47%; p<0.01) among recent rural-to-urban migrants. Knowledge of individual contraceptive methods (4.6% vs 5.3%; p=0.001), contraceptive prevalence rate (17% vs 22%; p<0.05) and the percentage of women who approved of family planning use were significantly lower among recent rural-to-urban migrants compared to urban non-migrants. Recent migrants were more likely than urban non-migrants to deliver at home without assistance from medically trained personnel (42% vs 23%; p<0.01). On average, recent migrant women considered a larger family size ideal compared to non-migrant urban women (4.84 vs 4.44; p<0.05).

Conclusion
This study highlights the need to consider recent rural-to-urban migrants as a distinctly disadvantaged group that need to be targeted when planning appropriate improvements in reproductive health services of urban areas.

TABLE OF CONTENTS

TABLES AND FIGURES

TABLES

FIGURES

ABBREVIATIONS

AIDS	ACQUIRED IMMUNODEFICIENCY SYNDROME
CEB	CHILDREN EVER BORN
CSO	CENTRAL STATISTICAL OFFICE
DHS	DEMOGRAPHIC AND HEALTH SURVEY
GRZ	GOVERNMENT OF THE REPUBLIC OF ZAMBIA
HIV	HUMAN IMMUNODEFICIENCY VIRUS
ICPD	INTERNATIONAL CONFERENCE ON POPULATION AND DEVELOPMENT
IUCD	INTRA UTERINE CONTRACEPTIVE DEVICE
NFP	NATURAL FAMILY PLANNING
SIDA	SWEDISH INTERNATIONAL DEVELOPMENT AGENCY
SPSS	STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES
STD	SEXUALLY TRANSMITTED DISEASE
TBA	TRADITIONAL BIRTH ATTENDANT
UNFPA	UNITED NATIONS POPULATION FUND
UNICEF	UNITED NATIONS CHILDREN'S FUND
USAID	UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
WHO	WORLD HEALTH ORGANISATION
YMCA	YOUNG MEN'S CHRISTIAN ASSOCIATION
ZDHS	ZAMBIA DEMOGRAPHIC AND HEALTH SURVEY

PINTRODUCTION

The term "migrant" is usually restricted to people who move voluntarily (internally or internationally) (1,2). This study looks at "rural-to-urban migrants" who are urban residents who have migrated from rural areas.

Rural-to-urban migrants, like refugees and internally displaced persons, face problems of dislocation and need to adapt to new, often difficult surroundings. They often differ from others living in urban areas to which they move in their culture, language and demographic and socioeconomic characteristics (3). Furthermore, migrants often have difficulties gaining access to health care services of urban areas (4). As a result of these aspects of their situation, many migrants' reproductive health suggests several concerns: Contraceptive access and use are limited, risks of HIV/AIDS and other sexually transmitted diseases are high, safe motherhood is difficult and violence against women is frequent. Migrants are therefore, considered to be among the world's most vulnerable people with urgent health needs including reproductive health. However, few reproductive health and family planning programs have focused on migrants as a specific group with special needs (5).

Planning reproductive health services for people who move requires good data yet few studies worldwide have examined how migrants from rural areas differ from other residents in urban areas in their characteristics and reproductive health needs. The Demographic and Health Surveys (DHS) which are national sample surveys of more than 50 developing countries, including Zambia, provide comparable information on fertility, family planning, and maternal and child health for women of reproductive age. These surveys can be a good

source of comparable data about female migrants and can allow comparison between migrants and non-migrants. DHS data on migrants, however, remain little used, and few published analyses of DHS data consider migrants as a separate group. The 1996 Zambia DHS allowed us a chance to analyze the reproductive health status of one group of migrants. The data presented in this study represent a first look at differences between recent rural-to-urban migrants and urban non-migrants in Zambia.

LITERATURE REVIEW

Migration and Urbanization

For several decades in developing countries urban areas have been growing faster than the general population because of massive migration from rural areas.

In Africa migration from rural areas accounted for as much as half of all urban growth during the 1960s and 1970s and about 25% of urban growth in the 1980s and 1990s (6,7). In Asia, excluding China, about 40% of urban growth in the 1960s, and over 45% in the 1970s and 1980s, has been due to migration and reclassification of territory from rural to urban (7,8). In Latin America migration from the countryside, along with reclassification, caused about 40% of urban population growth from the 1950s to the 1970s and about 35% in the 1980s (7).

Given the steady flow of migrants over the past several decades, it is not surprising that migrants and their families now comprise a substantial percentage of urban residents (9,10). A study using data from the DHS for 14 African countries, including Zambia, found that, among married women of childbearing age living in urban areas, between 22% and 55% had migrated from villages and towns within the past 10 years (11). It is clear that urbanization has been a powerful trend in developing countries. Just over 25% urban in 1975, developing countries were nearly 40% urban by 1995 (12). The world's population, estimated by the United Nations to be 45% urban in 1995, is projected to be nearly 60% urban by 2015. By 2015 over half of people in developing countries will live in urban areas (12,13). By then the estimated urban population of the developing world will exceed 3 billion, compared to 1.7

3

billion in 1995. The population of the developed countries, already about three-quarters urban, will become even more urban, rising to a projected 80% in 2015 (12).

A New Focus for Reproductive Health Care

As their numbers grow, migrants are becoming a new focus for reproductive health care programs in developing countries. While their reasons for moving and their circumstances differ widely, most face problems of dislocation and need to adapt to new, often difficult surroundings. They leave behind the support of traditional values, extended families, friends and familiar ways of life and must deal with a host of new challenges. Furthermore, migrants often differ from others living in urban areas to which they move in their culture, language and demographic and socioeconomic characteristics (3). Migrants often have difficulties gaining access to the health care services of urban areas (4). In addition, migrants may be unfamiliar with family planning programmes and other services, be unable to obtain information easily and be uncertain as to where to turn for such services. Consequently, they face many risks to their health, including their reproductive health (14).

While reproductive health programs often serve migrants along with others living in urban areas, few have recognized rural-to-urban migrants as a specific group with special needs. Observers generally agree that few programs recognize migrants as a distinct group. Even fewer design services with migrants' specific needs in mind (5,15).

Some countries have recognized the presence of large numbers of migrants and have moved to provide reproductive health services (16,17). For example, China has acknowledged the

need to provide better family planning services to its migrant "floating population" of some 80 million people (18), while in the Dominican Republic an AIDS prevention program has focused on migrant groups (19).

In Zambia little is known of the characteristics and reproductive health needs of rural-to-urban migrants. However, the reproductive health care for refugees is being addressed through the UNFPA supported project in Lusaka where many refugees live integrated into the urban and peri-urban compounds. The YMCA has trained peer educators to provide reproductive health information and services to these urban refugees. In addition, the clinics that serve refugee populations are becoming careful to target refugee clients with reproductive health care (20).

Fertility and Family Planning

When people migrate from rural to urban areas, their fertility and family planning behavior at first is likely to differ from that of long-term urban residents. The longer they remain in urban areas, however, the more their behavior becomes like that of other urban residents. The fertility of rural-to-urban migrants tends to reflect the forces of selection, disruption and adaptation that affect many aspects of migrants' lives (21).

When people move, they bring with them the attitudes and behavior of the places they have left. The very fact that they leave, however, means that they usually are not exactly like those who stay behind (selection). They often choose to migrate because they want to change their lives for the better (6). Controlling their own fertility can be an important part of this change.

Further, the act of migrating often upsets family life and reproductive behavior (disruption). In itself, the act typically reduces fertility for a time because it delays marriage, separates spouses, and postpones childbearing (21). Spousal separations of two years or more reduce the number of children that a woman has over her lifetime (22). Some new migrants, however, may still have more children than they would like because they are not aware of family planning as an option, do not know about reproductive health services, or lack access to them (6). Eventually, however, migrants adjust to urban life and become more like other urban dwellers (adaptation) (6). As migrants settle into urban areas, new influences and new social networks change their lives. Their fertility preferences, family planning practices and other reproductive behavior change as they become integrated into urban life. Migrants tend to be innovative and flexible (23). Thus it may not take them long to learn about hospitals, clinics, and other urban reproductive health care services.

Rural-to-urban migrant women generally have more children than urban non-migrant women but fewer than rural non-migrants. For example, a study of DHS data for 8 Latin American countries found that native urban women had an average of three children, rural-to-urban migrants averaged four, and rural non-migrants averaged six (26).

DHS data also showed that among urban women ages 30 to 34, the average number of children ever born was higher for rural-to-urban migrants than for urban non-migrants in several countries, with differences of more than one child per woman in Morocco, Peru and Senegal (25). Such statistics included births that occurred both before and after migration.

Also, more rural-to-urban migrant women, on average, considered a larger family ideal than did native urban residents, although most differences were quite small.

In developing countries people who migrate from rural areas generally know less about contraception and use it less than urban non-migrants. This was the case in most of the countries analyzed on the basis of DHS data. The results showed that rural-to-urban migrants were less able than urban non-migrants to name at least one modern contraceptive method. A lower percentage of rural-to-urban migrants than of urban non-migrants knew where to obtain a modern contraceptive method (those excluding traditional methods); and generally, rural-to-urban migrants were less likely than other urban residents to use contraception (25,44). Another study of DHS data for Bolivia and Peru found that native urban residents used modern methods of contraception most, followed first by long-term rural-to-urban migrants, then recent migrants and finally rural residents who had not migrated. This pattern held true when the study controlled statistically for marital status, age at marriage and women's education (27).

Rural-to-urban migrants also are less likely than urban non-migrants ever to have used modern contraceptives (21). For example, in Malaysia 53% of urban non-migrants had ever used contraception compared with 38% of migrants (28).

Migrants' length of residence in urban areas has been shown to have an influence on fertility and family planning behaviour mainly because of the process of adaptation. Long-term migrants (those who had lived in the urban area for at least 10 years) are more aware of modern contraceptives than recent migrants (those who have lived in the urban area four

years or less). In 6 countries in which DHS data was analysed, namely Burkina Faso, Ghana, Nigeria, Pakistan, Peru, and Senegal, long-term migrants were more likely than short-term migrants to be aware of at least one modern contraceptive method by a margin of at least 10 percentage points (25). Long-term migrants also tended to know more about how to find contraception. Differences in contraceptive use by length of residence often are dramatic. In the Dominican Republic, for example, 50% of long-term migrants were using modern contraceptives compared with 26% of recent migrants.

Studies in selected Sub-Saharan African cities and a few cities elsewhere have found that, after one or two years of residence in an urban area, migrants from rural areas use contraception more and most of them adopt urban fertility norms within a few years, and their fertility rate falls (6). Therefore, grouping recent and long-term migrants together may mask crucial distinctions among themselves. In this regard, family planning programmes may need particularly to reach out to the most recent migrants, who are least likely to have adapted to urban life.

In some developing countries rural residents are becoming more like urban residents as the ideas and amenities of urban areas spread to rural areas. Radio and Television now reach rural areas as well as cities. Differences between cities and the countryside in mortality, fertility, and educational attainment have diminished (24,29). Although the gaps between rural and urban life may be narrowing, there are still important differences in reproductive health needs and behavior between rural-to-urban migrants and urban non-migrants.

Maternal Care

Every year there are an estimated 200 million pregnancies in the world. Each one of these faces the chance of an adverse outcome for the mother and for the baby (30). While risks cannot be totally eliminated once pregnancy has begun, they can be reduced through effective, affordable, accessible and acceptable maternity and antenatal care.

The WHO recommends (30):

- that pregnant women should have at least four antenatal visits for, among other things, early detection and management of complications, and where needed prevention of malaria and tetanus.

- a skilled attendant at every birth who can at least recognize and manage complications, including life-saving measures for mother and baby.

- integrated postpartum care that includes identification and management of problems in mother and newborn; counselling, information and services for family planning; and health promotion for the newborn and mother including immunization, advice on breastfeeding, and safe sex.

The proportion of pregnant women who have care during delivery is universally lower than those who receive antenatal care (32). Yet it is during labour, delivery and the immediate postpartum period that many women and newborns develop complications that are difficult to predict, and which require a skilled attendant to manage appropriately. Skilled attendants are trained to manage uncomplicated deliveries safely, recognize complications, treat those they can and refer women to health centres or hospitals if more advanced care is needed. Skilled

birth attendants are defined by the WHO as trained midwives, nurses, nurse/midwives or doctors who have completed a set course of study and are registered or legally licensed to practice (31). Traditional birth attendants (TBAs), including those who have been trained, are not defined by the WHO as skilled attendants.

Literature suggests that in developing countries the rural poor and urban slum dwellers- among them many migrants - usually are least likely to receive antenatal care (including tetanus immunization) (28,33), care at delivery (including emergency obstetric care throughout pregnancy), and postnatal care (4,33).

Adopted in 1987 by the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA) and WHO, the International Safe Motherhood Initiative seeks to reduce maternal morbidity and mortality due to pregnancy and childbirth (33). The Initiative does not specifically mention migrants, refugees, or internally displaced persons, nor have many studies focused on safe motherhood practices among migrants. A study in Bolivia found that migrants were less likely than others to have had antenatal care or a trained attendant during delivery (34). In Sabah, Malaysia, poor access to reproductive health services, as well as lack of interest, helped explain why migrants were much less likely than the general population to have antenatal care. Migrants who received any antenatal care at all received it later than the general population (28).

HIV /AIDS and other STDS

Historically, in developing and developed countries alike, migration has been a major way in which diseases have spread (35). The more people move, the faster AIDS and other STDs, like other diseases, can spread. Mobility itself has been considered an independent risk factor for HIV infection (36). While little research has been conducted on the prevalence of STDs among migrant groups (37), studies show that the spread of HIV often coincides with migration patterns.

Usually, HIV appears first in urban areas and then diffuses to rural areas along major road networks. In Cote d'Ivoire, for example, HIV/AIDS has spread outward from the capital city, Abidjan, where almost half the population includes immigrants from surrounding countries (38).

A study in Kenya found that men who migrated between urban areas were more than twice as likely as non-migrants to engage in high-risk sexual behavior - that is, to have more than one sex partner while not using condoms. It was not clear whether their behavior was more risky because they moved or whether those who moved were prone to more risky sexual behavior than others (39). The fact that migrants often settle in areas with high prevalence of HIV infection, increases risk of disease (40). The disruption of social ties and family life that occurs during moves, especially in situations of poverty and crisis, also increases risk of disease, as migrants find new sex partners (41).

Personal Characteristics

Knowing more about migrants can help service providers meet their needs. However, reliable information about people who move is scarce . Surveys such as the DHS can provide some information about characteristics of rural-to-urban migrants. These migrants often differ from other urban residents in demographic and socioeconomic characteristics.

Within developing countries, growing shares of rural-to-urban migrants are women (42). Current literature show that in Latin America and, to a lesser degree, in East and Southeast Asia, women often make up the majority of migrants from rural areas to the big cities (42,24). Women also are beginning to comprise most of the flow to cities in Africa (43) - a reversal of earlier patterns in the region (6,9).

Like the populations of developing countries in general, most migrant populations are young. However, migrants often are older than non-migrants in the same area. For example, in countries studied using DHS data on urban women of reproductive age, a larger percentage of migrants than non-migrants were over age 25 (25).

The marital status of rural-to-urban migrant women varies widely by country, and there appears to be no pattern. In Senegal, Mali, Kenya and many countries of Latin America, many migrants are single women (9). In some African cities a substantial percentage of recent female migrants are unmarried or married but not living with their husbands (6). In other countries of Africa - Ghana and Tanzania, for example - married women are more likely than single women to migrate from the countryside to cities (9).

Rural-to-urban migrants often have lower social and economic status - literacy and formal education, living standards, and occupation - than the urban non-migrants they join. DHS data for some countries show that literacy is lower among rural-to-urban migrant women of reproductive age than among female urban non-migrants in the same age range. (The data report current status rather than status at time of migration). In Cameroon and Haiti, for example, nearly half of migrant women are illiterate compared with about one-quarter of non-migrant urban women. In Pakistan nearly 80% of migrant women are illiterate compared with less than half of urban non-migrant women (25). DHS data also show that far more non-migrant women of reproductive age than rural-to-urban migrant women have a secondary school education. In Bolivia over 60% of non-migrant women have a secondary education compared with under 25% of migrant women. In Morocco the comparable statistics are about 40% for non-migrants versus about 10% for migrants; and in Kenya about 50% compared with 40% (25).

Educational status affects reproductive health status in several important ways. The more educated a person, the more likely she or he is to marry late, to know about reproductive health services and their location, to want fewer children, to use contraception, and thus to have lower fertility (44,45). According to DHS data, these patterns explain why female rural-to-urban migrants with more education are less likely than migrants with little or no schooling to want large families, more likely to use contraception, and more likely to have lower fertility.

Many rural-to-urban migrants have low living standards compared with other urban residents. In countries studied with DHS data, rural-to-urban migrants report fewer household possessions and amenities, such as refrigerators and toilets, than urban non-migrants. They were more likely to live in houses with dirt floors. Migrants make up widely varying percentages of the urban poor among 20 countries studied with DHS data, from only 7% in Nigeria to 43% in Bolivia. In Zambia 31% of the urban poor are made up of migrants (25). The low living standards of migrants are one of the most critical reasons for their relatively poor health status.

Rural-to-urban migrants typically hold lower-status, lower-paid jobs than other city residents. Often these are jobs that they cannot leave to use reproductive health or other social services (9,46).

Lastly, culture and language often set migrants apart from others in an area. Language differences obviously make communication difficult and can discourage people from obtaining services. Culture and customs affect reproductive health and health care in many ways. For example, women who have moved from rural areas may prefer traditional birth attendants. Also, many people's ideas about how illness originates and women's customary health-related behavior during pregnancy and postpartum differ from Western medical views, which are more widely accepted in cities (47,48). Health workers need to appreciate traditional beliefs while offering modern information and services. The better that service providers understand the cultures of their clients and can communicate with them the better they can advise clients against unhealthy traditional practices.

STUDY JUSTIFICATION

Rural-to-urban migrants are becoming an important new focus for urban reproductive health care programs in developing countries. Currently, few reproductive health and family planning programs have focused on migrants as a specific group. Even fewer programs design services with migrants' specific needs in mind (5).

Migrants can be served better if health care programs reach out to them where they work and live (6,44). Often this can be achieved by adapting existing services. In other cases new services are needed.

Planning reproductive health services for migrants requires good data. Few published analyses of DHS data have examined how migrants from rural areas differ from other residents in urban areas in their characteristics and reproductive health needs. In Zambia, little is known of the reproductive intentions, knowledge regarding contraceptive use, and access to and use of existing reproductive health services of rural-to-urban migrants.

The study to be described is designed to analyze data from the 1996 Zambian DHS and highlight the reproductive health status of recent rural-to-urban migrants in Zambia. The results of the study can be disseminated and utilized in planning, managing and improving reproductive health services in urban areas with migrants' specific needs in mind.

OBJECTIVES

Main objective

By accessing the DHS data sets that are now in the public domain, to determine the reproductive intentions, knowledge regarding contraceptive use, and access to and use of existing reproductive health services of recent rural-to-urban migrants in Zambia.

Specific Objectives

To compare between "recent rural-to-urban migrants" as opposed to "urban non-migrants" the following:

1. Fertility (children ever born)

2. Fertility regulation (knowledge of contraception, current use of contraception, perceptions of family planning)

3. Fertility preferences (need for family planning, ideal number of children).

4. Maternal care (antenatal care, delivery assistance).

STUDY HYPOTHESES

Fertility

1. Recent rural-to-urban migrant women generally have more children than urban non- migrant women.

2. More recent rural-to-urban migrant women, on average, consider a larger family ideal than do native urban residents.

Contraceptive Knowledge and Use

1. Recent rural-to-urban migrants can name fewer contraceptive methods than urban non-migrants

2. A lower percentage of recent rural-to-urban migrants than of urban non-migrants know where to obtain a modern contraceptive method.

3. Recent rural-to-urban migrants are less likely than native urban residents to use contraception.

4. Recent rural-to-urban migrants are less likely than urban non-migrants ever to have used modern contraceptives.

Maternal Care

1. Recent rural-to-urban migrants are less likely than urban non-migrants to receive antenatal care.

2. Recent rural-to-urban migrants who receive any antenatal care at all receive it later than the native urban population.

3. Recent rural-to-urban migrants who receive any antenatal care at all make fewer visits than the native urban population.

4. Recent rural-to-urban migrant women are less likely than urban non-migrants to deliver in a health institution.

5. Recent rural-to-urban migrants are less likely than urban non-migrants to have a trained attendant during delivery.

Personal Characteristics (Literacy and Formal Education)

1. Literacy is lower among recent rural-to-urban migrant women of reproductive age than among female urban non-migrants in the same age range.

2. Far more non-migrant women of reproductive age than recent rural-to-urban migrant women have secondary or higher education.

METHODS

In order to conduct this study, data was obtained from the 1996 Zambia Demographic and Health Survey (51), which included a nationally representative sample of 8021 women, aged 15-49. This data set is available in the public domain as a computer database file and includes information on women's background characteristics, reproductive history, knowledge and use of family planning methods, fertility preferences, antenatal and delivery care, etc. A previous Zambia Demographic and Health Survey had been carried out in 1992 (52). A brief description of the 1996 Zambia Demographic and Health Survey (51) is provided below.

The Zambia Demographic and Health Survey

Objectives

The Zambia Demographic and Health Survey (ZDHS) is a nationwide sample of women of reproductive age designed to provide, among other things, information on fertility, family planning and maternal and child health. The 1996 ZDHS also included a module on maternal mortality. This information is used to support planning, managing and improving family planning and health services in the country.

Organisation

The Central Statistical Office (CSO) in conjunction with the Ministry of Health conducted this survey. Macro International Inc. of Columbia, Maryland provided technical assistance to the project through USAID. Further funding was provided by other bilateral and multilateral

organizations. CSO provided the editors, field coordinators, drivers, and staff to enable the household listings to be made. Most of the field staff came from the Ministry of Health.

Sample

The 1996 ZDHS covered the entire population residing in private residences in the country. The design for the ZDHS called for a representative probability sample of approximately 8,000 completed individual interviews with women between the ages of 15 and 49. This was estimated to provide reliable estimates for the country as a whole, for the urban and the rural areas separately and for each of the nine provinces.

The nine provinces were stratified by urban and rural areas. The households were identified based on demarcation of the entire country into Census Supervisory Areas, which in turn were divided into Standard Enumeration Areas of roughly equal size. The ZDHS sample was selected from within this frame. A more detailed explanation of the sampling process that identified households and hence women of reproductive age can be found in the Appendix of the 1996 ZDHS.

Questionnaires

There were two types of questionnaires used: the Household Questionnaire and the Individual Questionnaire. Firstly, the Household Questionnaire provided information on age, sex and education of persons listed in the household. This was used to identify eligible women. Other information regarding the household included source of water, type of toilet facilities etc.

Secondly, the Individual Questionnaire was used to collect information from women aged 15-49 about the following topics :

Background characteristics (education etc)

Reproductive history

Knowledge and use of family planning methods

Antenatal and delivery care

Breastfeeding and weaning practices

Vaccinations and health of children under age five

Marriage, Fertility preferences

Husband's background and respondent's work

Awareness of AIDS, and

Maternal mortality

Identifying Recent Rural-To-Urban Migrants

Out of the sample of 8021 respondents, 3001 were urban residents and 5020 were rural residents.

The 3001 urban residents represented four distinct categories:

1. Urban non-migrants

2. Recent rural-to-urban migrants

3. Medium-term and long-term rural-to-urban migrants

4. Urban-to-urban migrants

This had been established in the 1996 ZDHS by a series of questions. 1050 urban non-migrants and 247 recent rural-to-urban migrants were distinguished, by an answer to a standard question regarding length of time spent in the current residence. Typically an answer "always" designated "urban non-migrants", while an answer "4 years or less" designated "recent rural-to-urban migrants" (if in a subsequent answer they had indicated a move from a rural area as opposed to from another urban area).

The remaining 1704 urban residents were not included in the analysis. They comprised medium-term and long-term rural-to-urban migrants and also urban-to-urban migrants.

Types of Urban Residents

Type of Resident	Number
Urban non-migrants	1050
Recent rural-to-urban migrants	247
Medium-term and long-term rural-to-urban migrants and Urban-to-urban migrants	1704
Total Urban Residents	**3001**

Information about personal characteristics, reproductive history, knowledge and use of family planning methods, antenatal and delivery care and fertility preferences was extracted from the data set for the 1050 urban non-migrant and 247 recent rural-to-urban migrant respondents.

Ethical Considerations

There were no ethical considerations. However, the study proposal was submitted to, and approved, by the University of Zambia Research Ethics Committee. Further permission to utilize the data was obtained from the Central Statistical Office and Macro International Inc.

Data and Statistical Analysis

The data were analyzed using a computer program based on SPSS. As described in the specific objectives, the various issues of interest are described and compared between recent rural-to-urban migrants and urban non-migrants using standard descriptive and comparative statistics. Mostly cross-tabulations of data are presented in the results section. Except for women's education level, no standardization for age, marital status, or other factors has been attempted, nor has multivariate analyses been done.

Differences in proportions of urban non-migrants and recent rural-to-urban migrants for different variables were tested for statistical significance. Assuming that the data for both groups were approximately normally distributed and taking into account the directional study hypotheses, a conventional one-tailed test of significance using the normal curve distribution based on the test statistic, Z, was used. The z-scores were calculated for the differences observed in the proportions. The significance levels were set at 5% ($p < 0.05$) and 1% ($p < 0.01$). z-scores less than -1.65 or greater than $+1.65$ were considered significant at $p < 0.05$; while z-scores less than -2.33 or greater than $+2.33$ were considered significant at $p < 0.01$.

The differences obtained between the means on selected variables in the two groups (urban non-migrants and recent rural-to-urban migrants) were compared using the Student's t test. By convention, the differences were considered significant at $p < 0.05$ and highly significant at $p < 0.01$.

Working Definitions

1. **1996 ZDHS** is a nationwide sample survey of women of reproductive age designed to provide information on fertility, family planning, and maternal and child health – described above.

2. **Urban non-migrants** are urban residents who have always lived in their current urban area.

3. **Urban-to-urban migrants** are those urban residents whose last previous place of residence is a different urban area from their current one.

4. **Rural-to-urban migrants** are urban residents whose last previous place of residence was in a rural area. They are classified into three categories depending on length of time spent in the current urban area:

    • **Long-term migrants** are those who have lived in the urban area for at least 10 years;

    • **Medium-term migrants** are those who have lived in the urban area for 5 to 9 years;

    • **Short-term or recent migrants** are those who have lived in the urban area for 4 years or less.

5. **Reproductive Health** is "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system" (ICPD, 1994). It integrates family planning, maternal and child health and STD/HIV prevention and control.

RESULTS

1.   COMPOSITION OF WOMEN BY RESIDENCE AND MIGRATION STATUS

Data from the 1996 ZDHS show that 37.4% of women in the sample age 15 - 49 lived in urban areas (Table 1).

Table 1. Composition of female respondents age 15 - 49 by type of current residence.

Residence	n (%)
Urban	3001 (37.4)
Rural	5020 (62.6)
Total n (%)	**8021 (100)**

Table 2 shows the distribution of urban women of reproductive age by migration status. Migrants comprised 65% of urban residents, of which 8.2% were recent rural-to-urban migrants and 56.8% were medium-term and long-term rural-to-urban migrants and urban-to-urban migrants. The remainder, 35%, were urban non-migrants.

Table 2. Distribution of urban residents by migration status.

Migration Status	n (%)
Urban non-migrants	1050 (35.0)
Recent migrants	247 (8.2)
Other migrants	1704 (56.8)
All Urban Residents n (%)	**3001 (100)**

2. PERSONAL CHARACTERISTICS

Age Distribution

Table 3 presents the age distribution of urban non-migrant women and recent rural-to-urban migrant women in the 1996 ZDHS. The age structure for urban non-migrants was older than that for recent migrants. Specifically, the proportion of women age 15 - 29 was significantly lower among urban non-migrants than recent migrants (75.8% compared with 81.7%; $z = -2.113$; $p<0.05$). However, a significantly larger percentage of non-migrants than recent migrants was over age 29 (24.3% compared with 18.2%; $z= 2.187$; $p<0.05$).

Table 3. Distribution of urban women age 15-49 by 5-year age groups, according to recent migration status.

Age Group	Urban Non-Migrants n (%)	Recent Migrants n (%)
15 – 19	371 (35.3)	81 (32.8)
20 – 24	260 (24.8)	71 (28.7)
25 – 29	165 (15.7)	50 (20.2)
30 – 34	103 (9.8)	23 (9.3)
35 – 39	73 (7.0)	10 (4.1)
40 – 44	48 (4.6)	8 (3.2)
45 – 49	30 (2.9)	4 (1.6)
Total n (%)	**1050 (100)**	**247 (100)**

Formal Education

Table 4 and Figure 1 show the distribution of urban non-migrants and recent migrants by highest level of education attended. The proportions of women who had never attended school and those who had gone up to primary school were significantly lower among non-migrants than recent migrants (5.1% vs 9.7%; z= -2.298; p<0.05 and 48.2% vs 64.0%; z= -4.618; p<0.01, respectively). As shown, although they had less primary education, urban non-migrants instead had more secondary education. Urban non-migrants were significantly more likely than recent migrants to have secondary or higher education (46.7% vs 26.3%; z= 3.382; p<0.01).

Table 4. Distribution of urban women by highest level of education attended, according to migration status.

Education Level	Urban Non-Migrants n (%)	Recent Migrants n (%)	p-value
No Education	54 (5.1)	24 (9.7)	< 0.05
Primary	506 (48.2)	158 (64.0)	< 0.01
Secondary +	490 (46.7)	65 (26.3)	< 0.01
Total n (%)	**1050 (100)**	**247 (100)**	

Figure 1. Percentage of urban women by highest level of education attended, according to migration status.
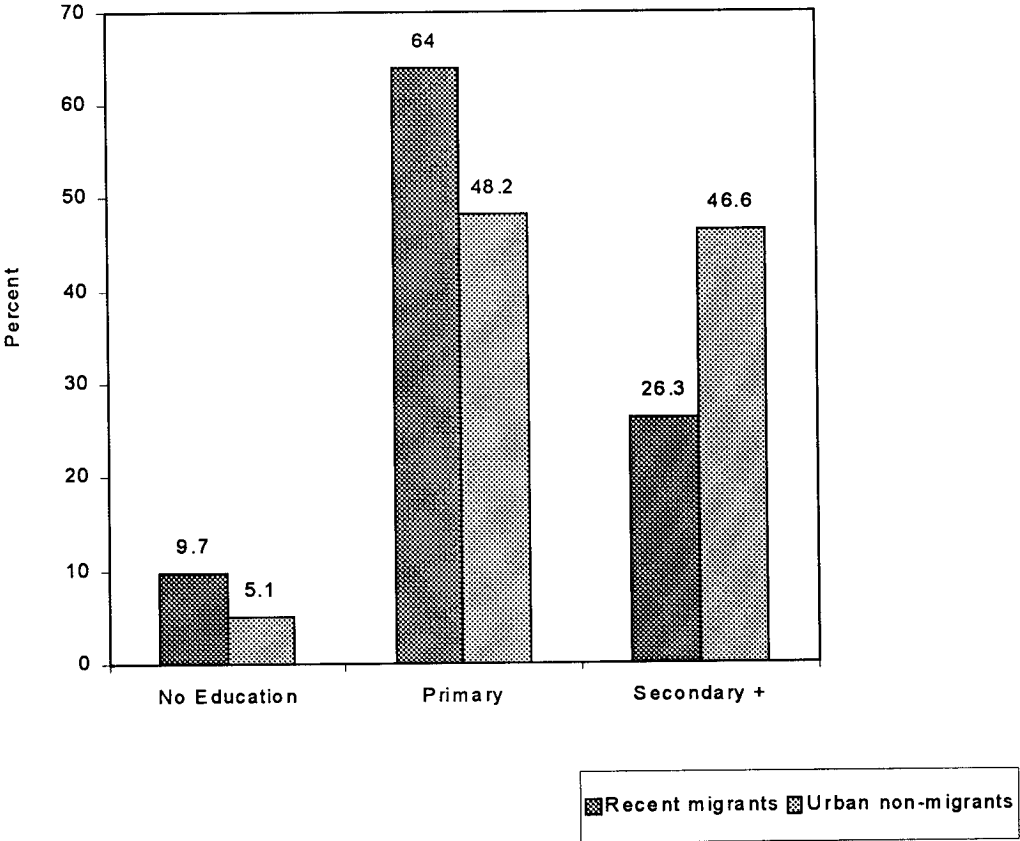
Source: Tabulation of 1996 ZDHS data

Literacy

The distribution of women with primary or no education by literacy is presented in Table 5. The data show that literacy was lower among recent migrants than non-migrants (The 1996 ZDHS data reports current status rather than status at time of migration). The percentage of illiterate women was significantly higher among recent migrants than urban non-migrants (42.3% vs 31.6%; z= 2.548; p<0.01) (see also Figure 2). More urban non-migrants than recent migrants were literate (31.6% vs 25.8%). However, this difference was not statistically significant (z= 1.529; p>0.05).

Table 5. Distribution of urban women with primary or no education by literacy, according to migration status

Literacy	Urban Non-Migrants n (%)	Recent Migrants n (%)	p-value
Reads easily	177 (31.6)	47 (25.8)	> 0.05
Reads with difficulty	206 (36.8)	58 (31.9)	> 0.05
Cannot read	177 (31.6)	77 (42.3)	< 0.01
Total n (%)	**560 (100)**	**182 (100)**	

Figure 2. Percentage of urban women of reproductive age who cannot read, by migration status.

Women who cannot read by migration status

■Recent migrants ▨Urban non-migrants
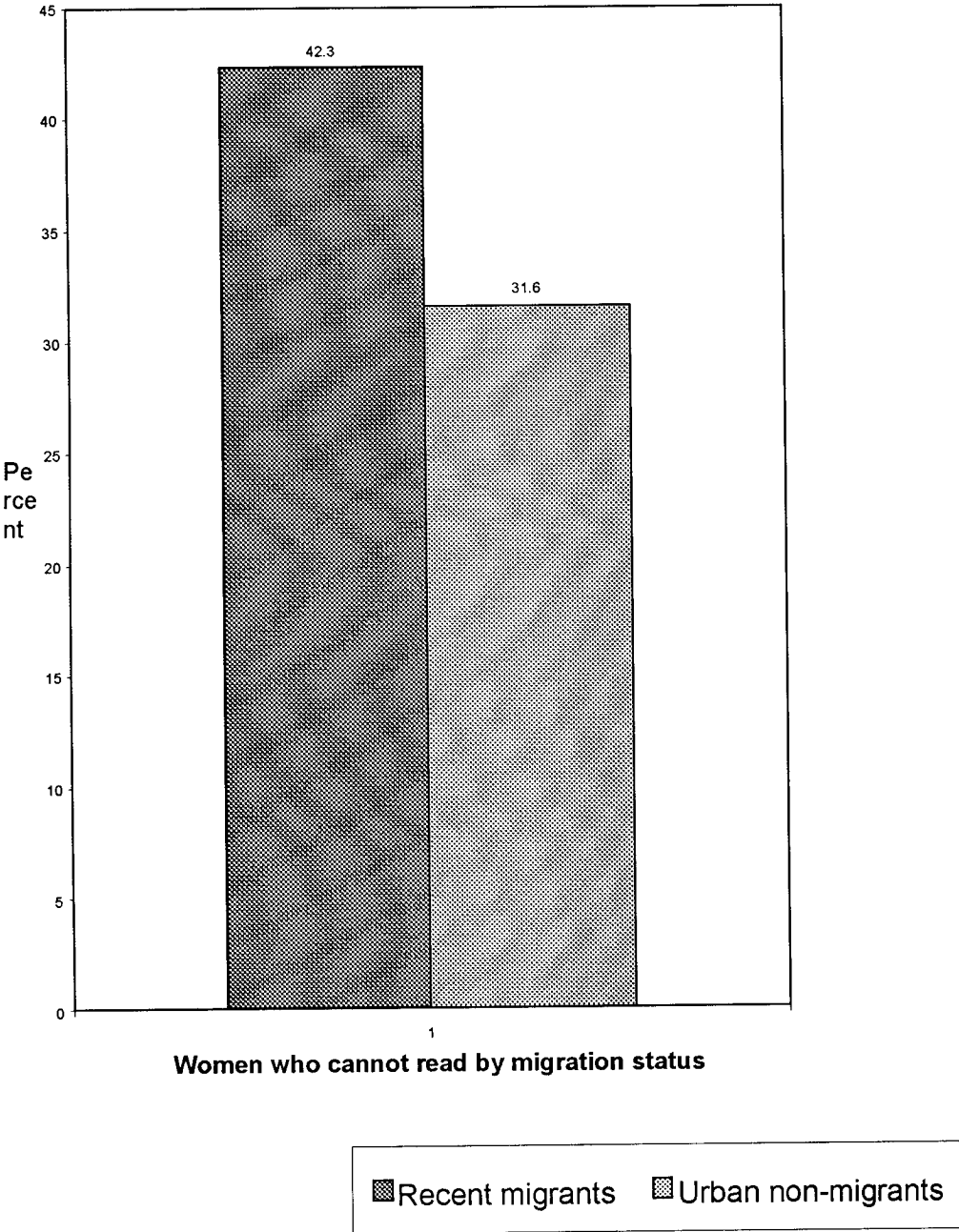
Source: Tabulation of 1996 ZDHS
data

Marital Status

Data in Table 6 show that 38.0% of non-migrants and 35.6% of recent migrants in the sample had never been married; 47.7% of non-migrants and 50.2% of recent migrants were married or living together; and 14.3% and 14.1% respectively in the two groups were no longer in union (widowed, divorced, not living together). None of he differences were statistically significant (p > 0.05).

Table 6. Distribution of urban women by current marital status, according to migration status.

Current Marital Status	Urban Non-Migrants n (%)	Recent Migrants n (%)
Never married	399 (38.0)	88 (35.6)
Married	488 (46.5)	123 (49.8)
Living together	13 (1.2)	1 (0.4)
Widowed	49 (4.7)	4 (1.6)
Divorced	72 (6.9)	27 (10.9)
Not living together	29 (2.7)	4 (1.6)
Total n (%)	**1050 (100)**	**247 (100)**

3.   FERTILITY

Children Ever Born and Migration Status

The distribution of urban non-migrant and recent migrant women of reproductive age by number of children ever born (CEB) and mean number of CEB is shown in Table 7. 70% of recent migrant women and 65% of non-migrant women had 2 children or fewer ($z=1.531$; p> 0.05, not significant). Conversely, a higher proportion of non-migrant women than recent migrant women had at least 5 children (18.2% vs 15.0%; $z=1.248$; p>.05, not significant). The difference in the mean number of children ever born for the two groups did not reach statistical significance (2.24 vs 1.97; p = 0.20)

Table 7. Distribution of urban women aged 15 – 49 by number of children ever born (CEB) and mean number ever born, according to migration status.

Number of CEB	Urban Non-Migrants n (%)	Recent Migrants n (%)
<=2	682 (65.0)	173 (70.0)
3-4	178 (16.9)	37 (15.0)
5+	190 (18.2)	37 (15.0)
Total n (%)	1050 (100)	247 (100)
Mean Number of CEB	2.24	1.97

Children Ever Born by Age Groups

The mean number of CEB according to 5-year age groups is shown in Table 8. On average, both urban non-migrant women and recent migrant women had given birth to three children by their late twenties, six children by their late thirties, and eight children at the end of their reproductive years. Significant differences between the two groups of women were found in the age groups 30 - 34 and 40 - 44. In some cases statistical significance is achieved in light of the numbers.

Table 8 Distribution of urban women by mean number of CEB, according to 5-year age groups and migration status.

	Mean Number of Children Ever Born		
Age Group	**Urban Non-Migrants**	**Recent Migrants**	**p- value**
15 – 19	0.2	0.3	0.39
20 – 24	1.5	1.2	0.13
25 – 29	2.8	2.7	0.10
30 – 34	4.3	4.5	0.03*
35 – 39	5.6	6.1	0.17
40 – 44	6.7	5.8	0.01*
45 – 49	7.5	8.0	0.07*

* denotes statistical significance

Children Ever Born by Women's Education Level

The mean number of CEB according to women's education level is shown in Table 9. The data show that education was inversely related to the number of CEB. Women with higher levels of education had fewer children than those with no education. Among urban non-migrants, women with secondary or higher education had a mean number of 1.7 children compared to 3.5 children for women with no education. The corresponding figures for recent migrants show that they had significantly fewer children in all educational groups (statistically significant in all three categories).

Table 9. Distribution of urban women by mean number of CEB, according to women's education level and migration status.

	Mean Number Of Children Ever Born		
Education	**Urban Non-Migrants**	**Recent Migrants**	**p-value**
No education	3.5	2.3	0.005
Primary	2.6	2.2	0.001
Secondary +	1.7	1.2	0.002

4. FERTILITY REGULATION

Knowledge of Contraception According to Migration Status

Table 10 shows the distribution of urban non-migrants and recent migrants by knowledge of contraception. The difference in proportions of urban non-migrants and recent migrants who knew some method of contraception was negligible (95.5% vs 92.7%; $z = 1.578$; $p > 0.05$). Also the proportions of women who did not know any method of family planning did not differ significantly between the two groups (4.5% vs 7.3%; $z = -1.578$; $p > 0.05$).

Table 10. Distribution of urban women age 15 – 49 by knowledge of any contraceptive method, according to migration status.

Contraceptive Method	Urban Non-Migrants n (%)	Recent Migrants n (%)
Any method	1003 (95.5)	229 (92.7)
No method	47 (4.5)	18 (7.3)
Total n (%)	**1050 (100)**	**247 (100)**

Knowledge of Contraception by Method and Migration Status

Table 11 shows the percentage of urban non-migrants and recent migrants with knowledge of specific contraceptive methods. Eight modern methods - the pill, condom, injectables, female sterilization, IUCD, implants, vaginal methods (foaming tablets, jelly, etc) and male sterilization were known to the respondents as well as two traditional methods – natural family planning (periodic abstinence or the rhythm method) and withdrawal. Any other methods mentioned by the respondent, such as herbs, strings, beads, roots, or breastfeeding,

were also recorded. Except for traditional methods, knowledge of individual modern methods was higher among non-migrants than migrants. Differences of at least 5 percentage points between the two groups were reported for the following modern methods: the pill, injectables, female sterilization, IUCD and implants. The mean number of methods known was significantly higher for non-migrants than recent migrants (5.3 vs 4.6; p=0.001).

Table 11. Percentage of urban women age 15 – 49 who knew a specific method of family planning, according to migration status.

Contraceptive Method	Urban Non-Migrants (%)	Recent Migrants (%)
Pill	87.5	82.2
Condom	66.2	62.4
Injectables	62.4	49.0
Female sterilization	53.6	39.3
IUCD	53.1	33.6
Implants	31.3	22.7
Foam/Jelly	27.2	24.3
Male Sterilization	20.3	17.0
NFP	46.6	46.6
Withdrawal	1.3	1.6
Other	16.6	14.2
Number of women	1050	247
Mean Number of Methods*	**5.3**	**4.6**

*Difference of mean number of methods, statistically significant (p=0.001)

Ever Use of Contraception by Migration Status and Type of Method

Respondents who said they knew of a method of family planning were asked if they had ever used it. The results are presented in Table 12.

42.7% of non-migrants and 29.7% of recent migrants had ever used a modern method ($z=$ 0.139; $p>0.05$). More recent migrants than non-migrants had used only traditional family planning methods (15.3% vs 10.5%; $z=0.048$; $p>0.05$). The difference in percentage of urban non-migrants and recent migrants who had never used a method of family planning was also negligible (46.8% vs 55.0%; $z= -0.082$; $p>0.05$)

Table 12. Ever use of contraception among urban women with knowledge of contraceptive methods, according to migration status.

Contraceptive Method	Urban Non-Migrants n (%)	Recent Migrants n (%)
Any modern method	429 (42.7)	68 (29.7)
Only traditional method	105 (10.5)	35 (15.3)
No method	469 (46.8)	126 (55.0)
Total n (%)	**1003 (100)**	**229 (100)**

Current Use of Contraception

Current use of contraception is shown in Table 13. Although more than 90% of both non-migrants and recent migrants had knowledge of family planning (see Table 10) and at least 45% had ever used a family planning method (see Table 12), only 17.0% of recent migrants and 21.7% of non-migrants reported that they were using any modern method at the time of the survey.

A significantly higher percentage of non-migrants than recent migrants were using modern methods (15.1% vs 10.1%; $z = 2.259$; $p < 0.05$). The proportion of those using traditional methods was under 7% for both groups. The percentage of women who were not using any contraceptive method was significantly higher among recent migrants than non-migrants (83.0% vs 78.3%; $z = 1.736$; $p < 0.05$).

Table 13. Distribution of urban women by current use of contraception, according to migration status.

Contraceptive Method	Urban Non-Migrants n (%)	Recent Migrants n (%)	p -value
No method	822 (78.3)	205 (83.0)	< 0.05
Any traditional method	69 (6.6)	17 (6.9)	> 0.05
Any modern method	159 (15.1)	25 (10.1)	< 0.05
Total n (%)	**1050 (100)**	**247 (100)**	

Specific Methods of Family Planning

Table 14 and Figure 3 show the percentage of urban non-migrants and recent migrants using specific contraceptive methods. The most popular contraceptive methods among urban non-migrant women were the pill (7.9%), condom (3.9%) and natural family planning (3.2%). The majority of recent migrants used condoms (6.1%), withdrawal (3.3%) and natural family planning (2.4%). The differences between the two groups for these contraceptive methods did not reach statistical significance (p > 0.05). Note that numbers are small.

Table 14. Distribution of urban women currently using a specific contraceptive method, according to migration status.

Contraceptive Method	Urban Non-Migrants n (%)	Recent Migrants n (%)
Pill	83 (7.9)	4 (1.6)
IUCD	4 (0.4)	1 (0.4)
Injectables	14 (1.4)	3 (1.2)
Condom	41 (3.9)	15 (6.1)
Female sterilization	17 (1.6)	2 (0.8)
NFP	34 (3.2)	6 (2.4)
Withdrawal	18 (1.7)	8 (3.3)
Other	17 (1.6)	3 (1.2)
Not currently using *	822 (78.3)	205 (83.0)
Total n (%)	**1050 (100)**	**247 (100)**

* difference statistically significant (p < 0.05).

Figure 3. Percentage of urban women using specific contraceptive methods, by migration status
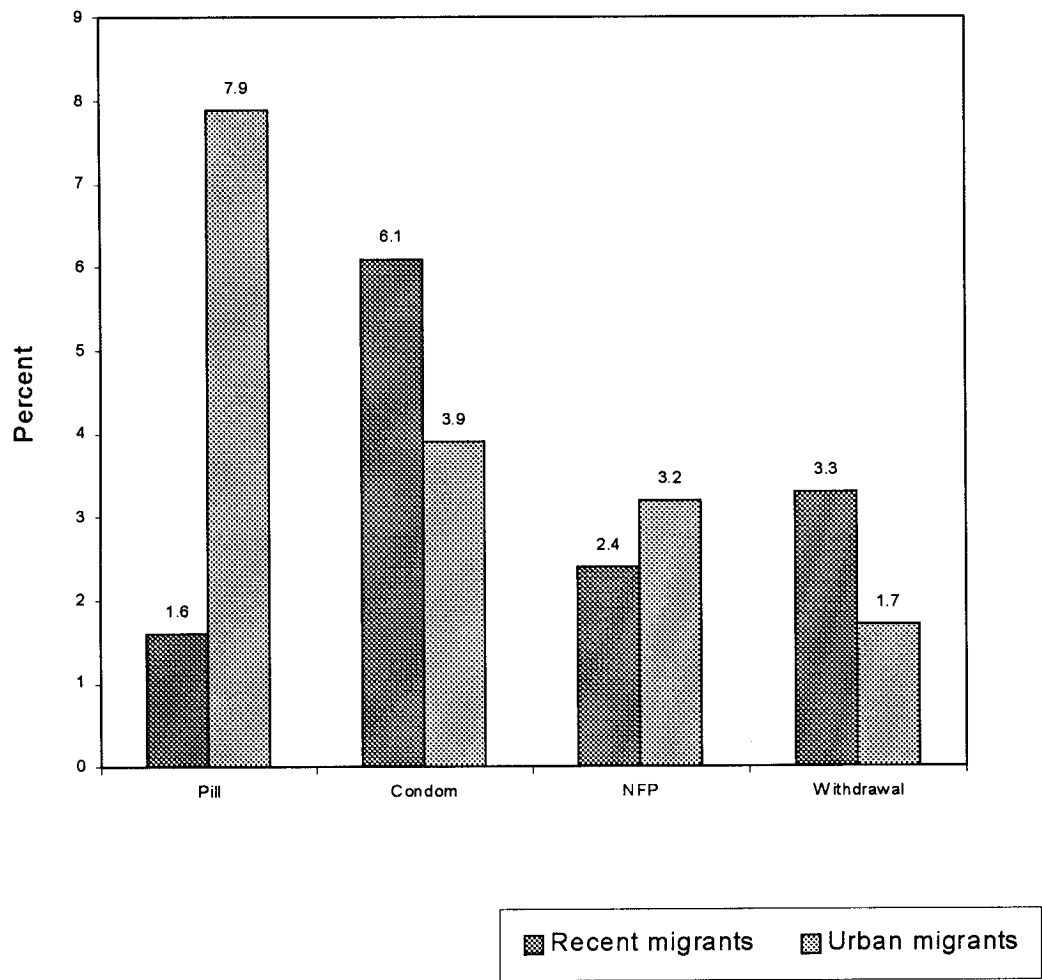
Source: Tabulation of 1996 ZDHS data

Current use of Contraceptive Methods, Level of Education and Migration Status

Figure 4 shows the percentage of urban non-migrants and recent migrants using a contraceptive method by women's education level – this draws on data already tabulated in Table 4 (education level attained of women by migration status) and Table 13 (current use of contraception of women by migration status). Current use increased steadily with increasing level of education. Use of any method increased from 15% among urban non-migrant women with no education to 24% of those with secondary or higher education. Contraceptive prevalence among recent migrant women varied from a low of 8% in women with no education to 19% in those with secondary or higher education. The difference between the two groups of women was significant among those with no education ($z=3.081$; $p<0.01$) and those with secondary or higher education ($z=2.069$; $p<0.05$). Data also showed that better educated women, regardless of migration status were more likely to use modern methods.

Figure 4. Percentage of urban women using a contraceptive method by women's education level, according to migration status.
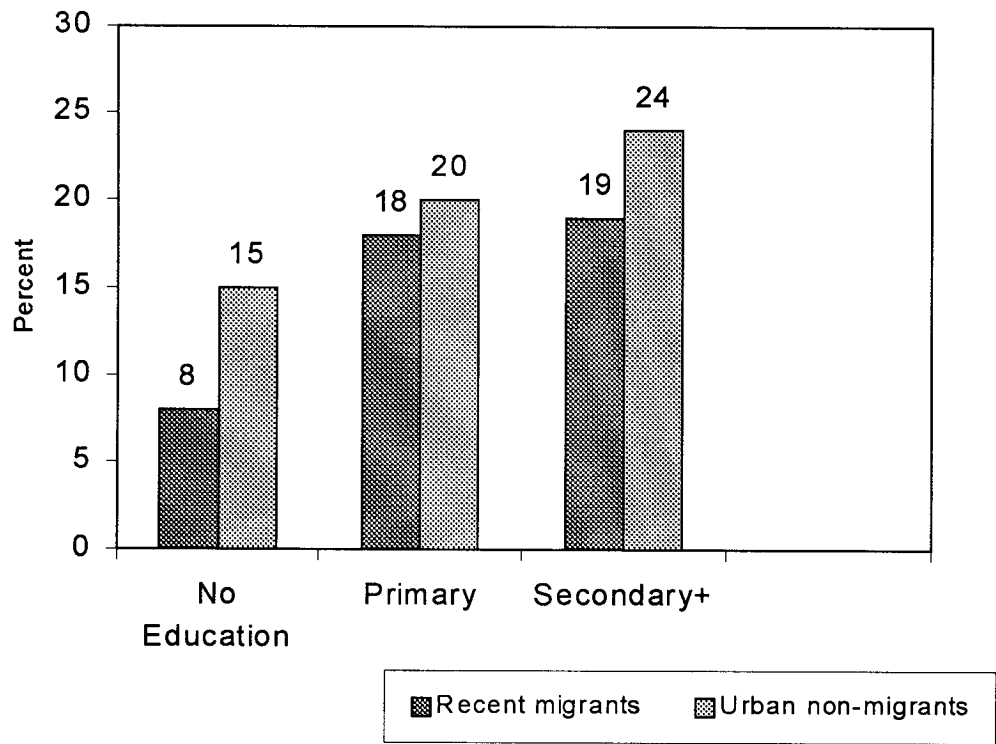
Source: Tabulation of 1996 ZDHS

Source of Family Planning Methods

All current users of modern methods of family planning were asked to report the source from which they most recently obtained their methods.

Table 15 and Figure 5 show the sources of supply for contraceptive methods. The data indicate similar proportions of non-migrants and recent migrants obtained their methods from public (government) sources (51.6% vs 60.0%; $z= -0.795$; $p >0.05$). A significantly higher percentage of non-migrants compared to recent migrants relied on private medical sources (29% vs 12%; $z=2.288$; $p <0.05$). Recent migrants made greater use of other private sources such as shops, friends and relatives (24% vs 17%; $z=0.774$; $p>0.05$).

Table 15. Distribution of urban women currently using a modern contraceptive method by the most recent source of supply, according to migration status.

Source of Supply	Urban Non-Migrants n (%)		Recent Migrants n (%)	
Public	82	(51.6)	15	(60.0)
Medical Private *	46	(29.0)	3	(12.0)
Other Private	27	(17.0)	6	(24.0)
Don't Know	2	(1.2)	1	(4.0)
Missing	2	(1.2)	0	(0.0)
Total n (%)	**159**	**(100)**	**25**	**(100)**

* Difference by migration status is statistically significant ($p < 0.05$)

Figure 5. Percentage of urban women currently using a modern contraceptive method by most recent source of supply, according to migration status.
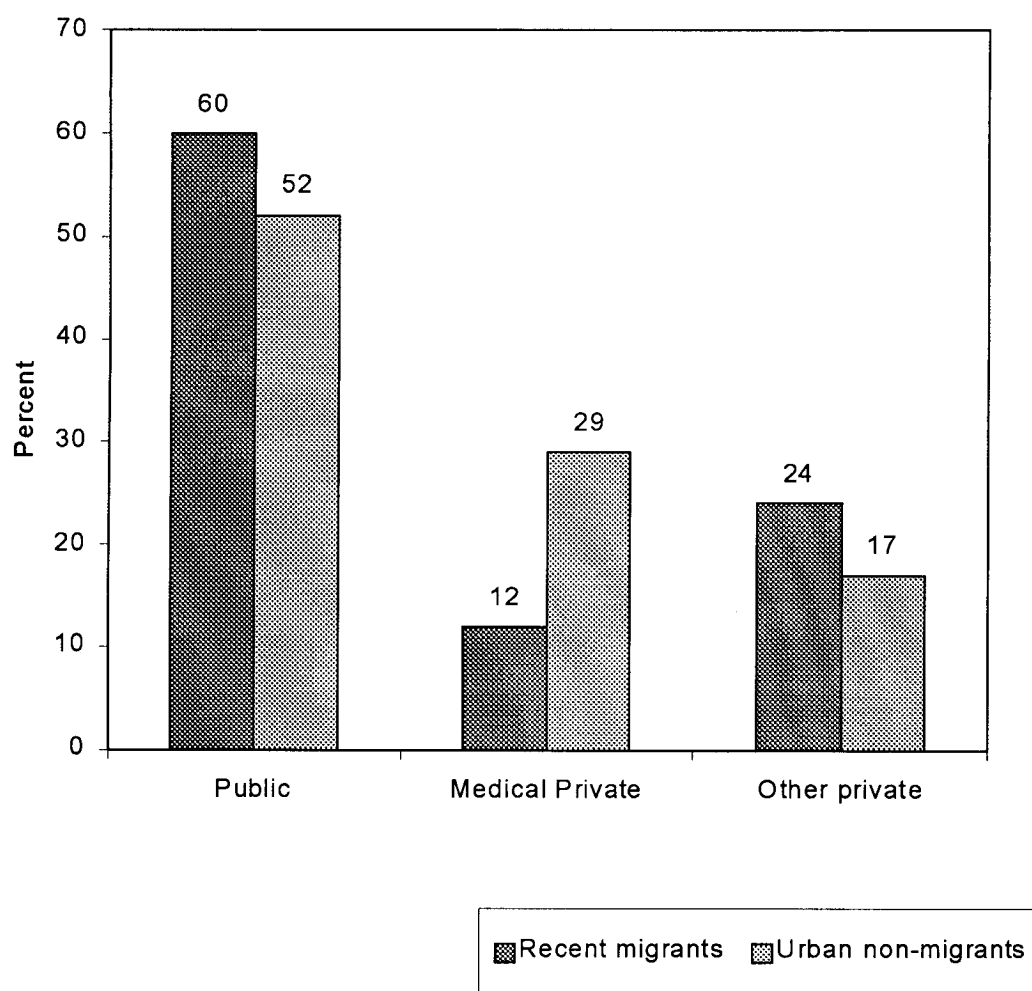
Source: Tabulation of 1996 ZDHS data

Knowledge of Source of Family Planning Methods

Table 16 shows the distribution of urban non-migrant and recent migrant women by knowledge of source of family planning methods. Over 50% of women in both groups knew a public (government) source. The percentage of women who did not know where to obtain a method of family planning was 25.5% for urban non-migrants and 37.7% for recent migrants ($z= -2.145$; $p<0.05$).

Table 16. Distribution of urban women by knowledge of source of family planning methods, according to migration status.

Source of Method	Urban Non-Migrants n (%)	Recent Migrants n (%)
Public	613　(58.4)	138　(55.9)
Medical Private	133　(12.7)	8　(3.2)
Other Private	36　(3.4)	8　(3.2)
Don't know *	268　(25.5)	93　(37.7)
Total n (%)	**1050　(100)**	**247　(100)**

* Difference by migration status is statistically significant ($p < 0.05$)

Attitudes of Women Toward Family Planning

The women were asked if they approved of a couple using family planning. Table 17 shows

that in general, opposition to contraceptive use was not widespread. However, the differences

between the two groups were highly statistically significant. More urban non-migrant women

than recent migrant women approved of family planning use (85.1% vs 75.7%; z= 3.195;

p<0.01). The percentage of those reporting a negative attitude was higher among recent

migrants than urban non-migrants (13.4% vs 7.1%; z= 2.730; p<0.01).

Figure 6 shows that approval of family planning use was highest among women with the

highest education. Approval by recent migrants, increased with increasing education levels:

(54% for those with no education, 75% for those with primary education and 86% for those

with at least secondary education). The corresponding approvals for urban non-migrants

were 80%, 82% and 89%. In-fact recent migrants with at least secondary education had

approval ratings almost as high as those with urban non-migrants of similar education (86%

vs 89%). Despite having no education, 80% of urban non-migrants approved of family

planning compared to only 54% of recent migrants with no education.

Table 17. Distribution of urban women by attitude toward family planning use, according to migration status.

Respondent's Attitude	Urban Non-Migrants n (%)		Recent Migrants n (%)	
Approves *	894	(85.1)	187	(75.7)
Disapproves *	74	(7.1)	33	(13.4)
Unsure	82	(7.9)	27	(10.9)
Total n (%)	1050	(100)	247	(100)

* Difference by migration status is statistically significant (p < 0.01)

Figure 6. Percentage of urban women who approve of family planning use by women's education level, according to migration status.
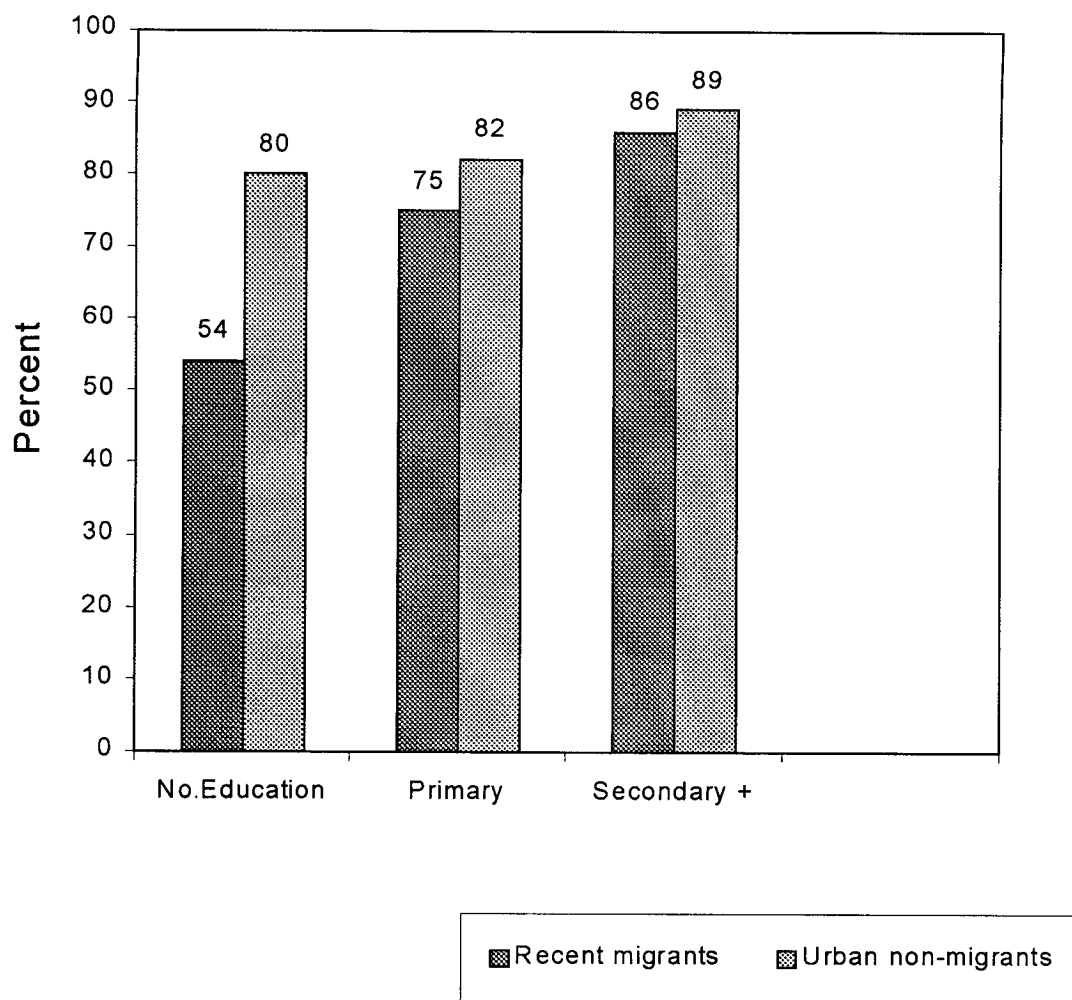
Source: Tabulation of 1996 ZDHS data

5. FERTILITY PREFERENCES

Ideal Number of Children

The data regarding what women considered the ideal family size is shown in Table 18.

The data indicate that the vast majority of women were able to give a numeric response to the question regarding the ideal number of children. Only 3.2% of urban non-migrants and 4.5% of recent migrants gave a non-numeric response such as "it is up to God", "any number", or "don't know". A significantly higher percentage of recent migrants than non-migrants said they wanted at least five children (51% vs 39.1%; z= 3.381; p<0.01). The proportions of women who cited three or four children as ideal and those who wanted two children or fewer were significantly higher for non-migrants than recent migrants (42.8% vs 34.4%; z= 2.481; p<0.01, and 14.9% vs 10.1%; z= 2.172; p<0.05, respectively). The data clearly show that recent migrants generally wanted larger families.

Table 18. Distribution of urban women age 15 – 49 by ideal number of children and mean ideal number of children, according to migration status.

Ideal Number of Children	Urban Non-Migrants n (%)	Recent Migrants n (%)	p- value
<=2	156 (14.9)	25 (10.1)	< 0.05
3-4	449 (42.8)	85 (34.4)	< 0.01
5+	411 (39.1)	126 (51.0)	< 0.01
Non-numeric response	34 (3.2)	11 (4.5)	> 0.05
Total n (%)	**1050 (100)**	**247 (100)**	
Mean Ideal Number	**4.44**	**4.84**	**0.05**

Note: The means exclude respondents who gave non-numeric responses.

The difference between the mean ideal family size for the two groups of women had reached borderline statistical significance (4.44 vs 4.84; p=0.05).

Ideal Number of Children by Age Groups and Migration Status

The mean ideal number of children according to 5 - year age groups is shown in Table 19. The data show that recent migrant women wanted consistently larger ideal family sizes than urban non-migrants. The differences were statistically significant for age groups 30-34, 35-39 and 40-44.

Table 19. Distribution of urban women by mean ideal number of children, according to 5 - year age groups and migration status.

	Mean Ideal Number Of Children		
Age Group	Urban Non-Migrants	Recent Migrants	p- value
15 – 19	3.9	4.2	0.06
20 – 24	4.2	4.4	0.08
25 – 29	4.4	5.0	0.07
30 – 34	4.7	6.3	0.05*
35 – 39	5.5	7.4	0.03*
40 – 44	5.7	9.2	0.04*
45 – 49	7.8	9.0	0.10

* denotes statistical significance

Note: The means exclude respondents who gave non-numeric responses.

Ideal Number of Children by Women's Education Level

The mean ideal number of children according to women's education level is shown in Table 20. The data show that ideal family size decreased as the level of education increased for both groups of women, particularly amongst those who had secondary education or higher.

Table 20. Distribution of urban women by mean ideal number of children, according to women's education level and migration status.

Education	Mean Ideal Number of Children		p-value
	Urban Non-Migrants	Recent Migrants	
No education	5.5	5.2	0.14
Primary	5.0	5.2	0.05*
Secondary +	3.8	4.0	0.06

* denotes statistical significance

Note: The means exclude respondents who gave non-numeric responses.

Current Pregnancy Status

Current pregnancy status was determined by asking the women whether they were pregnant at the time of the survey. Levels of unwanted pregnancies were estimated based on responses to a question as to whether the pregnancy was planned (wanted then), mistimed (wanted, but at a later time), or unwanted (wanted no more children).

Table 21 shows that 10.3% of urban non-migrants and 7.7% of recent migrants were pregnant at the time of the survey not statistically different (p > 0.05).

Table 21. Distribution of urban women aged 15 – 49 by current pregnancy status, according to migration status.

Current Pregnancy	Urban Non-Migrants n (%)		Recent Migrants n (%)	
No or unsure	942	(89.7)	228	(92.3)
Yes	108	(10.3)	19	(7.7)
Total n (%)	**1050**	**(100)**	**247**	**(100)**

51

Fertility Planning Status of Current Pregnancy

The distribution of current pregnancies as to whether they were wanted at the time of conception, wanted later, or not wanted at all is shown in Table 22. The data show that urban non-migrant women reported that 43.5% of the pregnancies were unplanned, of which 36.1% were mistimed and 7.4% were unwanted. The figures reported by recent migrants were higher, i.e. 52.6% had unplanned pregnancies, of which 42.1% were mistimed and 10.5% were unwanted. However, these differences were not statistically significant ($z = -0.491$; $p > 0.05$). Note that numbers are small.

Table 22. Distribution of currently pregnant urban women by planning status of the pregnancy, according to migration status.

Planning Status of Pregnancy	Urban Non-Migrants n (%)	Recent Migrants n (%)
Wanted then	61 (56.5)	9 (47.4)
Wanted later	39 (36.1)	8 (42.1)
Not wanted	8 (7.4)	2 (10.5)
Total n (%)	**108 (100)**	**19 (100)**

All statistically non-significant

6. MATERNAL CARE

The information about maternal care was based on all live births which occurred during the five years before the survey (January 1991 – December 1995) to the women who were interviewed (Tables 23a and 23b). Urban non-migrant women reported a total of 829 births, while recent migrants reported 192 births. The mean number of births per woman was 0.8 for both groups.

Table 23 a. Number of live births among urban non-migrant women in the 5 years preceding the survey (January 1991 – December 1995).

Number of Births	Number of Women	Total Number of Births
0	514	0
1	290	290
2	200	400
3	45	135
4	1	4
Total	**1050**	**829**

Table 23 b. Number of live births among recent rural-to-urban migrant women in the 5 years preceding the survey (Janaury1991 – December 1995).

Number of Births	Number of Women	Total Number of Births
0	118	0
1	74	74
2	49	98
3	4	12
4	2	8
Total	**247**	**192**

Source of Antenatal Care

Table 24 shows the distribution of live births by source of antenatal care. For virtually all births (98.9% for urban non-migrants and 96.3% for recent migrants), mothers had received antenatal care from a doctor, trained nurse, or midwife. The majority of the women relied on a nurse or trained midwife (95.3%). There were no women who received antenatal care from a TBA. Pregnant urban non-migrant women had a higher chance of being attended to by a doctor than recent migrant women (3.6% vs 1.0%; z= 0.026; p>0.05). The percentage of women who received no antenatal care did not differ significantly between the two groups (1.1% vs 3.6%; z= -0.025; p>0.05).

Table 24. Distribution of live births among urban women age 15 – 49 by source of antenatal care during pregnancy, according to migration status.

Antenatal Care Provider	Urban Non-Migrants n (%)		Recent Migrants n (%)	
Doctor	30	(3.6)	2	(1.0)
Nurse/Midwife	790	(95.3)	183	(95.3)
TBA	0	(0.0)	0	(0.0)
No one	9	(1.1)	7	(3.6)
Total n (%)	**829**	**(100)**	**192**	**(100)**

Timing of Antenatal Visits

Table 25 shows information about the timing of antenatal care visits. The first antenatal check-up was received before the sixth month of gestation for 54.5% and 62.0% of births to urban non-migrants and recent migrants, respectively ($z= -1.910$; $p<0.05$). Antenatal services were not received until the sixth month or later for 44% of births to urban non-migrants and for 33.9% of births to recent migrants ($z= 2.889$; $p<0.01$). The mean number of months pregnant at first visit was 5.2 for urban non-migrants and 5.0 for recent migrants ($p = 0.024$).

Table 25. Distribution of live births to urban women by the stage of pregnancy at the time of the first antenatal care visit, according to migration status.

Number of Months	Urban Non-Migrants n (%)		Recent Migrants n (%)		p - values
No Antenatal care	9	(1.1)	7	(3.6)	> 0.05
<6 months	452	(54.5)	119	(62.0)	< 0.05
>= 6 months	365	(44.0)	65	(33.9)	< 0.01
Don't know	3	(0.4)	1	(0.5)	> 0.05
Total n (%)	829	(100)	192	(100)	
Mean Number of Months	5.2		5.0		0.024

Number of Antenatal Visits by Migration Status

Information about the number of antenatal care visits is presented in Table 26. In at least 7 out of 10 births, women in both groups made four or more antenatal care visits. However, for 18.7% and 14.6% of births to urban non-migrants and recent migrants, respectively, mothers made fewer than four visits ($z=1.421$; $p>0.05$). The mean number of antenatal visits was 5.5 for urban non-migrants and 5.3 for recent migrants (not significant, $p=0.10$).

Table 26. Distribution of live births to urban women by number of antenatal care visits, according to migration status.

Number of Visits	Urban Non-Migrants n (%)		Recent Migrants n (%)	
0	9	(1.1)	7	(3.6)
1 – 3	155	(18.7)	28	(14.6)
4+	644	(77.7)	149	(77.6)
Don't know	21	(2.5)	8	(4.2)
Total n (%)	829	(100)	192	(100)
Mean Number of Visits	5.5		5.3	

Place of Delivery

Table 27 and Figure 7 show the distribution of births according to place of delivery.

76.4% of births to urban non-migrants took place in a health facility, compared to 57.8% of

births to recent migrants (z=2.822; p<0.01). The percentage of home deliveries was

significantly higher among recent migrants than among urban non-migrants (42.2% vs

23.6%; z=2.822, p<0.01)

Table 27. Distribution of live births to urban women by place of delivery, according to migration status.

Place of Delivery	Urban Non-Migrants n (%)	Recent Migrants n (%)	p-value
Health Facility	633 (76.4)	111 (57.8)	< 0.01
At Home	196 (23.6)	81 (42.2)	< 0.01
Total n (%)	**829 (100)**	**192 (100)**	

Figure 7. Percentage of live births to urban women by place of
delivery, according to migration status.
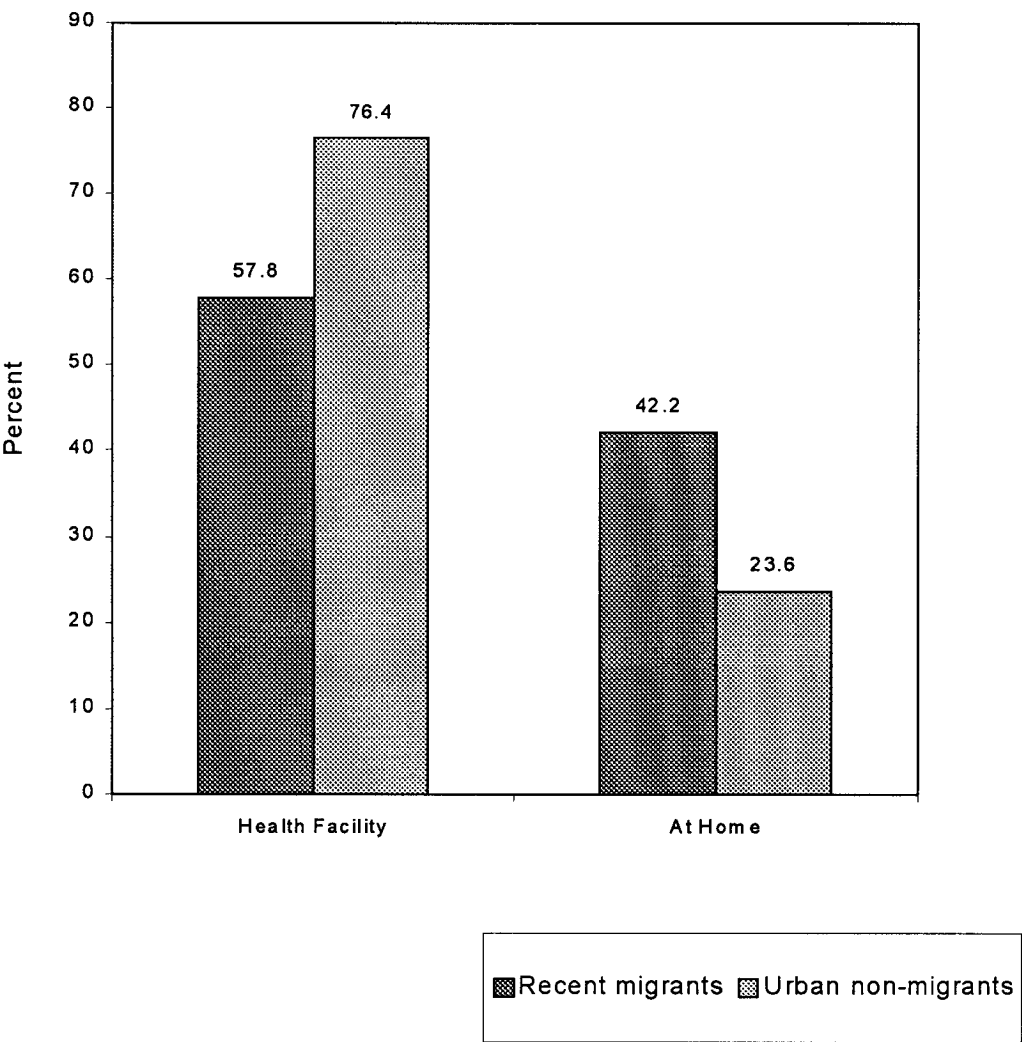
Source: Tabulation of 1996 ZDHS data

Assistance During Delivery

Information on births by type of assistance during delivery is presented in Table 28 and Figure 8. The proportion of births assisted by medically trained personnel (doctor, nurse or midwife) was significantly higher among urban non-migrants than recent migrants (76.7% vs 58.4%; z=2.755; p<0.01). Births to recent migrants were more likely than births to urban non-migrants to be mainly assisted by a relative (35.4% vs 20.1%; z=2.115, p<0.05). Only a small number of births (less than 2%) were assisted by TBAs. Although more births to recent migrants than urban non-migrants were delivered without any assistance, the difference was not statistically significant (4.7% vs 2.2%; z=1.523; p>0.05).

Table 28. Distribution of live births to urban women by type of assistance during delivery, according to migration status.

Assistance During Delivery	Urban Non-Migrants n (%)		Recent Migrants n (%)		p-value
Doctor	68	(8.2)	8	(4.2)	< 0.01
Nurse/Midwife	568	(68.5)	104	(54.2)	< 0.01
TBA	8	(1.0)	3	(1.5)	> 0.05
Relative/other	167	(20.1)	68	(35.4)	< 0.05
No one	18	(2.2)	9	(4.7)	> 0.05
Total n (%)	**829**	**(100)**	**192**	**(100)**	

Figure 8: Percentage of live births to urban women by type of assistance during delivery, according to migration status.
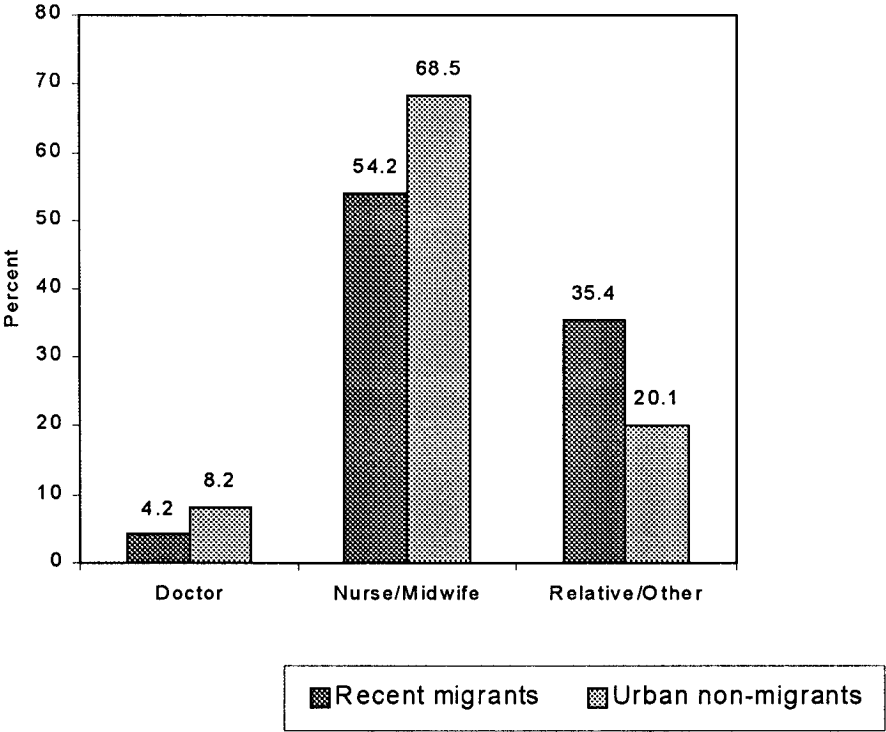
Source: Tabulation of 1996 ZDHS data

DISCUSSION

The analysis of the data from the 1996 ZDHS has shown that nearly 40% of women of reproductive age lived in urban areas (Table 1). This reflects the high level of urbanization in Zambia. Furthermore, migrants from villages and towns made up 65% of the urban population (Table 2). Almost 1 in 10 urban women were recent rural-to-urban migrants. Overall, the results have shown that recent rural-to-urban migrants actually differ from native urban residents in demographic and socioeconomic characteristics and reproductive health needs.

The age distribution for both non-migrants and recent migrants was typical of high fertility populations, i. e., a much higher proportion of the population in the younger than in the older age groups (see Table 3). However, there were significant differences between the two groups in the proportions of women aged 15-29 and 30-49. A larger percentage of recent migrants compared to non-migrants were below age 30. This finding supports the notion that young women usually find it easier than older women to migrate because there are more jobs and because they have not yet married and established families.

Marriage is one of the principal factor that affects a woman's risk of becoming pregnant, and is therefore important for the understanding of fertility. In this study the proportion of the women who were in a marital union (married or living together) at the time of the survey was similar for urban non-migrants (47.8%) and recent migrants (50.2%) (see Table 6). This finding is not surprising because literature has shown that the marital status of rural-to-urban migrant women varies widely by country (6,9).

Rural-to-urban migrants usually are educationally disadvantaged compared to urban non-migrants. In this study nearly half of migrant women were illiterate compared with about one-third of urban non-migrant women (see Table 5 and Figure 2). Urban non-migrants were almost twice as likely to have secondary or higher education as recent migrants (see Table 4). These differentials in educational attainment by migration status can be due to the fact that most adult migrants grew up in the countryside, where there are fewer secondary schools than in the cities, and where few women have an opportunity to obtain more than a primary education.

Education has a significant effect on women's reproductive health status. Our findings show that education is on one hand, inversely related to the ideal family size and fertility levels, and on the other hand, directly related to approval and use of contraception (see Tables 9 and 20, and Figures 4 and 6). Women with higher levels of education were more likely to want fewer children, to approve of family planning use, to use contraception, and thus to have lower fertility.

Although this study did not specifically compare the living standards of migrants with that of non-migrants, DHS data for 20 countries, including Zambia, show that many rural-to-urban migrants have low living standards compared with other urban residents (25). In Zambia 31% of the urban poor are made up of migrants. The low living standards of migrants are considered to be one of the most critical reasons for their relatively poor health status. Rural-to-urban migrants typically hold lower-status, lower-paid jobs which they cannot easily leave to use reproductive health or other social services.

The fertility of recent rural-to-urban migrants has been shown to differ from that of long-term urban residents. The results of this study seem to suggest that recent migrants had fewer children than urban non-migrants (see Table 7). This finding may be a reflection of the effects of selection; most recent migrants in the ZDHS sample could have chosen to migrate because of the desire to change their lives for the better. Controlling their own fertility could have been an important part of this change. Also, large families may have found it harder to migrate than small families.

Regarding the ideal number of children (wanted fertility), the data presented in Table 18 show that a significantly higher percentage of recent migrants than non-migrants considered a family size of at least 5 children as ideal and their mean ideal number of children was almost 5. This level of ideal family size (for recent migrants) exceeds the four children espoused as the ideal family size in Zambia's National Population Policy (49) and implies that efforts to encourage smaller family size norms could be focused on recent migrants as a special target group.

It is interesting to note that at the end of their reproductive years (40 - 49 years), recent migrants' ideal family size was higher than their fertility level (CEB). The data in Tables 8 and 19 indicate that the ideal family size for recent migrant women age 40 - 44 and 45 - 49 was 9 compared to the number of CEB of 6 and 8 children, respectively. Therefore, these women reported an ideal family size which was higher than their actual family size. Comparable data for urban non-migrant women show the opposite (Tables 8 and 19). These findings suggest two possibilities. Firstly, the act of migrating could have upset family life

and reproductive behaviour (disruption) reducing fertility because migration often delays marriage, separates spouses, and postpones childbearing. Literature suggests that spousal separations of two years or more reduce the number of children that a woman has over her lifetime (22). Secondly, there may be an infertility problem among recent migrant women. Infertility is an important health problem that causes great suffering to those who want children and are unable to have them. Much of this infertility is preventable through measures to reduce reproductive tract infections including STDs and by the improvement of their management. Recent rural-to-urban migrants may not be aware of urban reproductive health care services that integrate prevention activities in other health promotion and care activities including maternal and child health and family planning and STD prevention and care.

Information about maternal care is vital in identifying categories of mothers and their babies who are at risk and in providing information for planning appropriate improvements in services. The few studies that have focused on safe motherhood practices among rural-to-urban migrants report that they are usually least likely to receive antenatal care, care at delivery and postnatal care (28, 33, 34).

The analysis of the 1996 ZDHS data has highlighted the differentials in various aspects of maternal care between urban non-migrants and recent rural-to-urban migrants in Zambia. Whereas there were few differentials in the sources of antenatal services and in the number and timing of antenatal care visits, the differentials regarding the place of delivery and assistance during delivery are quite alarming considering that it is during labour, delivery and

the immediate postpartum period that many women and newborns develop complications
that are difficult to predict, and which require a skilled attendant to manage appropriately.

Antenatal coverage was almost universal (see Table 24). Only 1.1% of urban non-migrants
and 3.6% of recent migrants did not receive any antenatal care. However, the timing of
antenatal care visits is rather late if mothers are to receive the major benefits of antenatal care
(see Table 25). Early identification of risk factors and medical conditions and initiation of
prophylaxis where needed (e.g., against malaria or anaemia) is vital for prevention and early
management of complications. On average, both urban non-migrants and recent migrants
made at least four antenatal care visits (see Table 26), implying that they are aware of the
importance of frequent visits, though it is unclear why recent migrants seem to go for
antenatal care earlier.

The place of delivery and the type of assistance during delivery are crucial aspects of safe
motherhood, as a woman is more at risk of dying when complications arise while delivering
at home without assistance from a medically trained person. The data presented in Tables 27
and 28 lend support to the findings of the few studies that focused on safe motherhood
practices among migrants (28, 33, 34). Recent rural-to-urban migrants were more likely than
urban non-migrant women to deliver at home without assistance from a skilled attendant.
This situation calls for concern and strengthen the need to focus on rural-to-urban migrants as
a specific target group when planning appropriate improvements in reproductive health
services of urban areas. High quality maternal health services must be accessible and
available as close as possible to where migrants live. These services must also be affordable,
effective, appropriate for and acceptable to the women who need them.

Given the current social, demographic and health conditions in Zambia, family planning is considered as a key component of reproductive health (50). It has a bearing on, for example, the prevention of STDs, the consequences of unwanted pregnancies, infertility, and safe motherhood. Therefore, determining the level of knowledge and current use of family planning methods and services was a major objective of the 1996 ZDHS (51).

The analysis of the ZDHS data has shown that knowledge of individual contraceptive methods, the contraceptive prevalence rate and the percentage of women reporting a positive attitude towards family planning use were significantly lower among recent rural-to-urban migrants compared to urban non-migrants (see Tables 11,13 and 17). This pattern held true when women's education level was taken into account (see Figures 4 and 6). In addition a, higher percentage of recent migrants than non-migrants did not know where to obtain a modern contraceptive method (Table 16). This situation could be due to inadequate access to family planning information and services.

Observers generally agree that many rural-to-urban migrants tend to cluster in certain neighbourhoods of large cities, primarily in squatter settlements at the edges of the cities and therefore, often isolated from effective reproductive health care by distance and cost of transportation (5). DHS data for other countries has shown that among contraceptive users, rural-to-urban migrants are more likely than non-migrants to travel an hour or more to reach the nearest source of modern contraceptives. Having to travel long distances to reach providers discourages use of services (25). Clustering, however, may make it easier for reproductive health and family planning programs to reach out to migrants where they live.

Among current users of modern contraceptive methods, a higher percentage of recent migrants (24%) than urban non-migrants (17%) relied on non-medical private services such as shops, community - based distributors, friends and relatives (see Table 15). In this regard improvement and expansion of these services may lead to increased access and availability of family planning methods like oral contraceptives and condoms. Current restrictions in the sale of oral contraceptives and barrier methods by the private sector and through social marketing programs should be addressed so that these channels can be utilized in the provision of additional access for users (50).

Overall, the analysis of the data from the 1996 ZDHS has shown that regarding various elements of reproductive health, recent rural-to-urban migrants compared to urban non-migrants are more compromised. We did not conduct multivariate analyses to gain insight into the factors associated with the poorer reproductive health status of migrants. However, poor access to reproductive health care and lack of interest have been cited by other studies as the likely explanation for the compromised reproductive health situation of migrants (4,28,29). In order to reach out to migrants with reproductive health information and services, new approaches are needed that emphasize good communication and community involvement and participation.

Mass media campaigns can be an effective way to provide recently arrived migrants with information about reproductive health services that exist in their new community. Health messages can be communicated through various mass media, billboards, posters and fliers.

Also community meetings and door-to-door campaigns and drama can reach people even if their access to the mass media is limited.

Interpersonal relationships are also a powerful communication channel among groups of recently arrived rural-to-urban migrants. Messages from reproductive health programs can encourage people to tell their neighbours and family members about services.

Community involvement and participation is important in both identifying and strengthening areas of reproductive health services. To be effective, programs must find out what the community want. Many migrants are resourceful and want to be involved in programs that want to assist them (15).

Both men and women should be involved as they are supposed to be jointly responsible for decisions regarding fertility, access to family planning and reproductive health information and services. Both education and poverty can affect the decisions in different ways.

STUDY LIMITATIONS

This study took advantage of utilizing the data set of the 1996 ZDHS. There has been criticism that this is a very rich but grossly under-utilised asset. Whereas there is good sampling and representation of urban and rural areas and within provinces, the numbers could have been considered small for this particular study. The sample size was adequate for obtaining information for the main demographic and health variables, within age and geographical stratifications. However, with successive stratifications, the numbers become progressively smaller. Despite this, important trends were noted and in many cases statistical significance was upheld for many of the differences hypothesized between the two groups of women. If larger numbers had been required, a large community based survey would have to be utilised.

CONCLUSIONS

The analysis of the 1996 ZDHS has shown how recent rural-to-urban migrant women differ from their urban non-migrant counterparts in their characteristics and reproductive health needs. They vary in demographic and socioeconomic characteristics. Their fertility preferences, family planning behaviour and safe motherhood practices show important differentials. Recent rural-to-urban migrants are socio-economically disadvantaged and their uptake of reproductive health services is lower compared to urban non-migrants.

Recent migrants have larger family sizes. They are less likely to use contraception; they know fewer contraceptive methods; and they know less about sources of family planning methods and other urban reproductive health care services.

The proportion of women who receive antenatal care is high for both recent migrants and non-migrants. However, the proportion of recent migrant women who have care during delivery is lower than that of urban non-migrant women. Recent migrants are more likely to deliver at home without any assistance and are therefore, more at risk of dying during childbirth. Lack of sufficient access to good reproductive health care most likely contributes to the compromised reproductive health situation of recent rural-to-urban migrants.

This study has attempted to highlight the need to focus on recent rural-to-urban migrants as a specific target group when planning appropriate improvements in reproductive health services of urban areas in Zambia. However, more information about recent migrants may be useful to planners and policy makers when designing services with migrants' specific needs

in mind. Such information include: migrants' level of integration into urban life; how fast groups of migrants adapt to urban norms; migrants' previous experience with reproductive health care; and migrants' interest in using reproductive health services (some migrants may consider other needs more pressing).

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