UNPLANNED PREGNANCIES: PREVALENCE, OUTCOME, AND CONTRACEPTIVE USE, IN AN URBAN AREA IN DAR ES SALAAM.

(A Community Based cross-sectional Study).

BY

DR. NHANDI N.M. NG'WALIDA

MD (DAR) 1989.

A dissertation submitted in partial fulfillment for the requirements of the degree of Master of Medicine in Obstetrics and Gynaecology at the University of Dar es Salaam.

October, 2001.

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CERTIFICATION

The undersigned certify that I have read and hereby recommend for acceptance by the University of Dar es Salaam a dissertation entitled:

Unplanned Pregnancies: Prevalence, Outcome and Contraceptive Use. Among Women in an Urban Area, Dar es Salaam, Tanzania. A Community Based Cross-Section Study.

In partial fulfillment of the requirements for the degree of Master of Medicine in Obstetrics and Gynaecology at the University of Dar es Salaam.

Prof. MALISE KAISI.

(SUPERVISOR)

Signature:.....

Date:30/10/2001

DECLERATION

I, Dr. Nhandi N. M. Ng'walida, declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature:.....

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ACKNOWLEDGEMENT:

I am very grateful to my main supervisor Prof. M. Kaisi for his tireless supervision, encouragement and assistance throughout all stages of this study. His understanding, guidance and constructive criticism have enabled realization of this work.

I am also grateful and indebted to all consultants and specialists in the department who helped me in many ways during my study.

My special thanks to Prof. E.J. Urassa, Prof. M.T. Leshabari and Dr. N.S. Hamudu who assisted me at different stages for literatures and advices during the production of my proposal and write-up of this study.

My gratitude go to Mrs. C. Masanja and Mrs. R. Mpembeni of the department of Epidemiology and Biostatistics for their assistance in the data analysis.

My sincere thanks should also go to the late my lovely wife Rose who encouraged me to proceed with my training when we were at disparate moment during her illness and to my sons Eric and David, and my daughter Sarafina, for their understanding and acceptance of living without any parental touch thoughout this trying moment of preparation of this dissertation.

I am obliged to Dr. B. Byalugaba who is the Planning Service Coordinator for Kinondoni District Research Committee for her great assistance in making arrangements at all levels, form District, Wards, and streets (Mitaa), which assistance enabled the researcher and other research assistants to conduct the interviews smoothly throughout the survey.

I wish to acknowledge with gratitude the research assistants who worked tirelessly throughout the survey during data collection.

Special thanks should go to Mrs. H. Matimbwa for her skillful secretarial service.

Lastly but not least, I would like to extend my thanks to all my colleagues in the department of obstetrics and other departments for their encouragements, and to nurses and other hospital staff who are assisted me in one way or another.

DEDICATION

This Book is dedicated to my wife the late Rose Kanhengwa, and to my sons Eric Magilu and David Manyangu, and my daughter Sarafina Kalolo.

DR. NG'WALIDA, N.N.M.

ABSTRACT.

Objectives: To determine the prevalence of unplanned pregnancies at the last conception in the past five years, outcome, and contraceptive use prior to that conception among women of reproductive age group in an urban area of Dar es Salaam.

Design: A Community based cross sectional study, in Kinondoni District urban areas by house to house visits survey for 30 days from 21st August to 19th September 2000.

Setting: Multistage sampling method was adopted to select Kinondoni district out of the three districts of Dar es Salaam Region using a table of random numbers. Then 4 administrative wards(kata) from a total of 11 wards(kata) of Kinondoni urban were selected from which 2 streets(mitaa) from each ward were also selected using the same sampling procedure of random numbers.

Subjects: 900 women in their reproductive years between the age of 15-49 years inclusive who have had at least one conception in the past five years preceding the survey were recruited for an interview. Of these, 893 women were interviewed; using a structured closed questionnaire for their last conception in the past five years regrding whether it was planned or unplanned, its outcome, and contraceptive use prior to the conception.

The remaining seven women were excluded from the data analysis because they refused to give consent for an interview.

Results: Of the women interviewed, the last conception in 227(25%) was unplanned. 162(71%) of these were unplanned but accepted and 65(29%) were unplanned and unwanted. Teenagers who were 15 to 19 years old had the highest proportion (44%) of unplanned pregnancies.

Contraceptive use prior to conception of the undesired pregnancies were generally low among the respondents, 136(60%) of those who had unplanned pregnancies never used any method to prevent the conception. The use was even lower among teenagers who were aged 15 to 19 years, the proportion of use being only 8.5% and this difference was found to be statistically significant, P=0.000001. The main reason for not using any method to prevent the undesired conception was lack of knowledge on methods of contraception. 48.83% of teenagers knew nothing about contraceptive methods. The main reason for not using any method of contraception to prevent the undesired pregnancies by the older age groups was fear of side effects of contraceptives.

52(6%) of the pregnancies outcome in the entire study population were abortion, of which 31(60%) were from planned conception and 21(40%) were from unplanned

conceptions. There was significantly higher rate of abortions in the unplanned group than in the planned group. This was found to be statistically significant, P=0.006.

Conclusions: Unplanned pregnancies are a significant Public health problem in Dar es Salaam urban. It is even more prominent among teenagers than in the older women. Unplanned pregnancies were also associated with higher rate of abortions than the planned conceptions possibly because of induced abortions. And contraceptive use were generally low among women with unplanned pregnancies, but more so among teenagers than the older women.

In order to reduce the problem of unplanned pregnancies, there is a need to change the current clinic based family planning services to the establishment of vigorous outreach programme to reach all eligible couples and individuals who are sexually active and this to involve also teenagers in and out of school. The knowledge on modern methods of contraception should be offered to every eligible sexually active individual.

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INTRODUCTION AND REVIEW OF LITERATURE:

The problem of unplanned pregnancies is worldwide despite availability of many different modern contraceptive methods. This is evidenced by the high incidence of pregnancy termination worldwide. An "Induced abortion is a prescription for unwanted pregnancy".

Each year an estimated 36 to 53 million abortions are performed worldwide due to unwanted pregnancies. Of those as many as 20 million are considered to be unsafe; that is they take place outside health care systems, are performed by unskilled providers quite often under unsanitary conditions. Most but not all unsafe abortions take place in developing countries where abortion is prohibited by law[1]. In developing countries, complications of unsafe abortion due to unwanted pregnancies cause between 50,000 to 100,000 women's deaths annually[1]. WHO estimates that the proportion of maternal mortality due to abortion complications ranges from 8% in Asia to 26% in South America with a worldwide average of 13%. In some settings, complication of unsafe abortions causes most maternal mortality and in a few they may even be the leading cause of death for women of reproductive age.

It is the African women however, who are most likely to die when they undergo unsafe abortion; one out of every 150 abortions results in the woman's death[1].

It is estimated that 3.7 million abortions are performed each year in the sub-Saharan Africa which is equivalent to 26 per 1,000 women, and about 23,000 African women die from complications[1].

Abortion complications account for an estimated 13% of all maternal deaths in Africa. In some countries, hospital based studies report much higher percentages. For example, in Ethiopia a hospital - based study estimates that abortion complications accounted for nearly 40% of maternal deaths[1]. In Nigeria during the 1980's at two teaching hospitals abortion complications accounted for 20% and 30% of maternal deaths[1]. The incidence of abortion of unwanted pregnancies in countries where the law remains restrictive is very difficult to estimate. All the same hospital records provide a fair understannding of the magnitude of this public health problem. For example a study on the epidemiology of induced abortion in Nairobi Kenya showed that up to 60% of gynaecological admission at the Kenyatta National Hospital were abortion cases, of these 62.3% were illegally induced[25].

In Sudan, a prospective study of patients with incomplete abortion in Khartoum hospitals in 1975 showed that the ratio of the number of abortions to the number of maternity admissions was 1 to 1[2].

However it should be remembered that hospital based information represents just a tip of what may be going on in the community. A community based survey in Chile and Colombia showed that only about one third of women undergoing illegal abortion procedures develop complications necessitating hospital admissions[3]. This means that two thirds of women who undergo illegal abortion procedures without necessitating hospital admissions thereafter are not revealed by the hospital based studies. Hence there is a need to perform a community survey to establish the actual problem of unplanned pregnancies in our set-up.

In Tanzania, so far very little is known about the extent of the problem in the community. Most of the data available is hospital based, and worse still only from public hospitals in the capital city of the country. It has been estimated that, unsafe abortion is a contributory factor in 15% of maternal mortality in Dar es Salaam[4].

The prevalence of induced abortion among women admitted for incomplete abortion at Muhimbili Medical Centre, Dar es Salaam was found to be 31%[6].

Another study done in four public hospitals in Dar es Salaam on factors associated with induced abortion found that, out of 965 patients admitted with complication of abortions, 455(47%) were found to have had induced abortions due to various reasons[7]; and in a study done at a consultant hospital in Dar es Salaam on patients admitted and treated for incomplete abortion and its complications at Muhimbili Medical Centre between September 1997 and February 1998, it was found that out of 214 women admitted 85 (39.7%) had illegally induced abortion[8].

In another study on patients admitted with the diagnosis of incomplete abortions in three hospitals in Tanzania. (ie Dodoma Regional Hospital, Temeke District Hospital and Muhimbi Medical Centre, Dar es Salaam) between December 1996 and January 1997, out of 302 patients who were included in phase one of their study, 3.9 to 16.1 per cent had physical evidence of induced abortion, and 14.3% to 39.9% had possibly induced abortion. And out of 823 patients who were included in phase two between February 1997 and May 1997 in the two hospitals located in Dar es Salaam, with an empathetic dialogue approach, 30.9 - 60 per cent of patients were certainly induced abortion[9].

So far all studies done in the country have all been hospital based and involved only those who had induced the abortion and developed complications.

The number of those who terminate their pregnancies and do not develop any complications are not known, as are the numbers of those who are treated at private hospitals, those who decide to carry the pregnancies to term and those who die before reaching medical attention are not known. Most of the hospital based studies show that the major reasons for resorting to abortion were economic inability to support the child, unplanned pregnancy, too young previous child and pursuance of studies in school[7] .

Induced unsafe abortions do not only lead to high mortality rate but also other morbid conditions e.g. postabortal sepsis, uterine perforation, intestinal injury, cervical incompetence and infertility.

The study report on factors associated with induced abortion in Public Hospitals in Dar es Salaam, Tanzania showed that, on the average it costs the public US$ 7.5, which is equivalent to Tsh. 6,000, at present to treat a case of abortion per day. This is very expensive if you take to account that, the minimum monthly/wage is US$ 50 (i.e. Tsh. 40,000/=) and the majority of the affected are the women of low economic status.



Although the true prevalence of pregnancy termination in Tanzania is not known and not easily established as it is in other parts of the world, the problem of unplanned/unwanted pregnancies is of public importance. A community based survey showed that 15 percent of conceptions were mistimed and 9 per cent were not wanted at the time of conception in the five years preceding the survey by fertility planning status, according to birth order, and mother's age at birth [10]. Hence, approximately 25 per cent of conceptions were unplanned/unwanted and therefore, were prone to termination illegally and were likely to be unsafe.

Contraceptive use among women who resort to induce abortion was found to be low, for example in one study it was only 37.6%, while 86.5% of teenagers who were 17 years or younger, knew nothing about family planning methods.[6] In another study, 44.8% of patients were not aware of any method of contraception[7].

The reasons given for not using contraceptives according to age showed that, 10.6% of women aged below 30 year and 9.5% of women aged between 30-49 years do not intend to use any method due to lack of knowledge about family planning methods[10].

The other reasons given were;

-Respondent opposed 18.7%.

-Partner opposed 4.9%

-Others opposed 0.3%

-Religious reasons 2%

-Lack of access 0.1 and

-No source was known 0.9%[10].

The increase in knowledge and use of contraceptives among women of reproductive age group is known to decrease the incidence of unplanned pregnancies, as well as unsafe induced abortion. "Contraceptive use is the first line of defence against unwanted pregnancy"[13]. However contraceptives alone will not eliminate the problem of unwanted pregnancies in the community. This is evidenced by the facts that even in the developed world where knowledge and accessibility to contraception is high. Induced abortion practice is still so prevalent that policy makers have found it necessary to legalize abortions in order to make abortion easily available, safer and leave the service in the hands of recognized practitioners. For example early medical abortion was introduced in Denmark in 1998[11]. Also in most countries in Asia, abortion is legal and is provided at government health facilities.



In Bangladesh for example menstrual regulation is legal and is provided at government health facilities through the 10th weeks of pregnancy[12].

Many countries in Western and Eastern Europe have legalized abortion practice and most countries in Asia, Latin America and the USA have done so with exception of Africa where by in the majority of countries, abortion is illegal. The only example of an African country where abortion has been legalized is Zambia[1].However even those countries where pregnancy termination is restricted by law, the incidence of induced abortion is high as evidenced by many hospital based studies on the prevalence of induced abortion. Induced abortions in such circumstances are usually unsafe.

For the case of Tanzania, despite the stringent law governing abortions which states: "Any person who, with intent to procure miscarriage of a women, whether she is or not with child, unlawfully administer to her or causes her to take any poison or any other noxious thing or uses any force of any kind or uses any other means, whatever, is guilty of a felony and is liable to imprisonment for fourteen years. As evidenced from different hospital based studies done in Dar es Salaam, pregnancy termination for the unwanted pregnancies is highly practiced in the community.

STATEMENT OF THE RESEARCH PROBLEM:

With the exception of few hospital based studies on factors associated with induced abortion, the problem of unplanned pregnancy is not yet studied in Dar es salaam urban. No one has tried to establish the extent of the problem at the community level. A consensus exists that with the rapid change taking place in our societies, especially the early start of sexual activity and the desire for smaller families coupled by limited accessibility and availability of effective contraception; the magnitude of the problem of unplanned pregnancies and of unsafe induced abortion, is bound to increase.

It is therefore important we document the extent of the problem in our community and have the information obtained disseminated to policy makers in a manner that would enable them to understand the need to take effective actions to help reduce the problems of unplanned pregnancies.

LIMITATION OF THE STUDY:

- Because the proportion of unplanned pregnancies to be established involves past pregnancies up to the past five years; some of the unaccepted(mistimed) or unwanted pregnancies may turn out to be accepted, especially after birth, and lead to rationalization. Therefore, some will not disclose the unplanned pregnancies at the time of conception, hence the problem is likely to be under estimated.

- Since illegal abortion is a criminal offence in Tanzania, women are less likely to admit having an abortion.

- Because the study involves only urban areas of Dar es Salaam and excludes the areas with administrative structure of rural setting, it cannot be regarded as representing the Dar es Salaam population at large.

- Women who induced abortion and died of complications will not appear in the data analysis.

DEFINITION OF TERMS:

The concept of unplanned pregnancy is difficult to define in Tanzanian Society. Majority of unmarried and married couples happen to conceive without knowing exactly the time they are likely to conceive.

For the purpose of this study, any conception reported to have been occurred at a particular time, when a woman wanted to become pregnant by then was considered planned. Those who wanted to wait until later were considered unplanned but accepted and those who did not want to conceive at all were considered to have unplanned unwanted pregnancies.

STUDY OBJECTIVES:

Broad Objective:

To determine the Magnitude of unplanned pregnancies in the last conception, outcome and contraceptive use prior to conception of such pregnancies, among women of reproductive age group in an urban area of Dar es Salaam.

Specific Objectives:

1. To determine the proportion of women in the reproductive age group who have had unplanned pregnancies in their last conception in the past five years.

2. To determine the outcome of the reported unplanned pregnancies.

3. To determine the prevalence of contraceptive use prior to conception of unplanned pregnancies.

METHODOLOGY:

Study design:

The design of this study was a community based cross sectional study.

Study area

The study was conducted in Dar es Salaam urban area, which is the Capital City of Tanzania with population estimated to reach approximately three million people at present. This is the place where few Hospital based studies have shown significant proportion of illegal and unsafe induced abortions for the patients who were admitted with the diagnosis of abortion complications in the public hospitals in the City.

Dar es Salaam City despite being a capital city of the country, has a status of being one of the 25 region in the country, with an administrative structure similar to that of other regions. It has a Regional Commissioner as a leader and it is divided into three districts, which are Ilala, Temeke and Kinondoni, each with a District Commissioner as a leader. Further more, each District is divided into many administrative areas known as wards, with each area having a leader known

as ward executive officer (Katibu Mtendaji), and each ward is further divided into many small areas known as streets(mitaa) for the urban settings and villages and vitongoji for the rural settings. One street(mtaa) usually comprises about hundred families under the leadership of a street chairman known as (Mwenyekiti wa Mtaa).

The three districts have in total 73 wards, 279 streets (mitaa), 38 villages and 114 vitongoji as it shown in the table below.

Table A: Shows the Administrative structure of Dar es Salaam region in district, wards, streets (mitaa), villages and vitongoji.

DISTRICTS	WARDS	STREETS (MITAA)	VILLAGES	VITONGOJI
ILALA	22	64	9	37
KINONDONI	27	120	14	19
TEMEKE	24	95	15	58
TOTAL	73	279	38	114

Of the three million residents of Dar es Salaam, about half of them (i.e. 1,588,030) are adult people aged 18 years and above. The study was conducted in Kinondoni district which was randomly selected by using table of random numbers from the other two districts.

Sample size:

The following formula was used to calculate the required sample size:

$$N = \frac{Z^2 \times P(100-P)}{d^2}$$

Where: N = the required sample size

Z = 1.96 corresponding to 95% confidence level.

P = Proportion of unwanted and unplanned pregnancies among women of reproductive age groups in five year survey (taken to be 25% from TDHS 1996)

d = Margin of error (taken to be 3%)

Then: $N = \frac{1.96^2 \times 25 \times 75}{3^2} = 800$ minimum required sample

The required sample size was increased to 900 respondents to cover 10% loss.

Target population:

The target population was all women of the reproductive age group that is between the age of 15 and 49 years inclusive, who were residents of the study area during the survey period.

Sample selection:

All women of reproductive age group who were residents of Kinondoni district and who were living in the selected study area and had happened to conceive in the past five years were interviewed whether their last conception was planned, unplanned accepted, or unplanned unwanted.

Sampling Procedure:

Multistage sampling method was adopted to select the study sample. Kinondoni district has a total of 27 wards with a total of 120 streets (mitaa). Of the 27 wards of Kinondoni District, 11 wards are in urban setting. Four wards out of 11 wards from the urban setting were selected using table of random numbers, these were Tandale, Ubungo, Kawe and Mwananyamala wards.

Then from each ward, two streets (mitaa), which were Kwa Tumbo and Pakacha sokoni, for Tandale ward, Msufini and Bawani kwa Kopa for Mwananyamala ward, Ukwamani and Mzimuni, for Kawe ward and Kimara Baruti and Ubungo Kisiwani for Ubungo ward, were also randomly selected from the rest of other streets (mitaa) of each ward using a table of random numbers, from which then, respondents were obtained for interviews. Each street (mtaa) contains

approximately one hundred families. 113 respondents were recruited for the interviews from each street (mtaa) by house to house visit. The researcher and the other three research assistants were introduced to the family members by the street chairman (Mwenyekiti wa mtaa) prior to the interview process. Family by definition was considered to be all members in the house who cook and eat together. This was because basing the definition on kinship would pause a problem in selection of respondents, as in urban settings more than one family can be living in different rooms of the same house. The total number and where possible, names of eligible respondents for the interview were obtained from the street chairman (mwenyekiti wa mtaa) before the interviews were conducted in the selected streets (mitaa).

Exclusion criteria:

All women who were eligible for the interview by the study criteria, but had not conceived in the five years preceding the time of the survey and those who refused to give consent for the interview were excluded in the study and were not interviewed.

Data collection method:

The respondents were interviewed using a structured closed ended questionnaire translated in swahili to answer on her last conception in the past five years regarding whether it was planned or not. What was the outcome of that pregnancy, and to establish whether contraceptives had been used prior to conception of the reported pregnancy.

The investigator and three pre-trained research assistants conducted the interviews using the questionnaire.

Data collection involved a house to house visit to each household of the street. The street chairman introduced the researchers to the selected population. The survey was done according to the schedule planned and the appointment made.

All women in the reproductive age groups between 15 years and 49 years inclusive were interviewed privately after establishing a good rapport and informed consent. Those who were absent were re-visited and regarded as non-respondents if found absent the second time. During data collection, the principal

investigator was making unexpected visits to the area allocated to each research assistant in order to check the procedure for data collection. The consistence of data collection was counter checked by occasional exchange of interviewers and the recorded responses were compared for familiarity. In addition, every day after data collection, the principal investigator and other research assistants discussed problems faced during the day. The principal investigator also conducted a rapid check of all the questionnaires filled during the day.

The survey for data collection was conducted for 30 days from 21st August to 19th Sept. 2000 in which 900 respondents were recruited. Each interviewer was interviewing ten respondents per day. Hence, 300 respondents for the whole duration of Data Collection.

Ethical issues:

A written consent was obtained from the MUCHS Research and Publication Committee before the study was conducted.

A verbal consent from each individual woman who was included in the study population was obtained, given the option to accept for joining the study population or not and of not answering any question in the questionnaire which she feels she did not want to do so.

All women who were in the study population were told about the purpose of the study and the importance of the information they provided. They were also told that, the information they would reveal would be confidential and there was no way of determining the identity of specific individuals who gave a particular response. Names were not asked at the interview. A verbal consent from parents of women age < 18 years who were recruited for the study was obtained.

A permission were obtained from the administrative authorities of the District (District Research Committee), wards and street (mitaa) prior Data collection in the respective areas.

TRAINING OF INTERVIEWER:

Three female interviewers were recruited to interview the respondents. Two of them were nursing officers and one was an assistant medical officer. All of them had considerable experience in research work. Training of the interviewers was done in consultation with the District Research Co-ordinator to make sure that they were not assigned for other duties during the period of Data collection.

One day of training of the researcher assistants was conducted and it was made sure that they had properly understood the purpose of the study and all the questions to be asked to the respondents. Confidentiality and anonymity of the information required was strongly emphasised. All interviewers were informed on the importance and the sensitivity of some of the information required, as well as the importance of understanding the body language of the respondents as she talked to them. Pilot testing of the questionnaire was conducted during training.

Because no names were to appear to the respondents questionnaire, emphasis to fill properly and fully all the needed information was emphasized, as there was no way one could come back to the concerned respondent if some of the information were missed out.



Data Analysis:

The Data Collected was entered and analysed using EPI Info version 6-computer programme on daily basis by the principal investigator with an assistance of data entry clerk. The principal investigator in assistance of a computer technician, coded, entered and checked for the consistence and analysed the data at the end of data collection. The differences in responses between demographic subgroups with respondent's age groups, parity, marital status and level of education were related to the magnitude of unplanned pregnancies, outcome and contraceptive use. Statistical significances were done using Chi Square wherever relevant.

The Interview Schedule:

The study instrument consisted of three parts.

1. Part one generally dealt with the demographic and other background characteristics of the respondent.
2. The second part of the instrument was intended to elicit the respondent information on her past reproductive carrier in the past five years if she had unplanned pregnancy in her last conception.
3. The third part tried to elicit the respondent's pregnancy outcome and whether there was any contraceptive method used prior to the conception of the reported unplanned pregnancy.

RESULTS:

900 women in their reproductive years between the age of 15 and 49 years inclusive who had conceived in the past five years preceding the study were recruited for an interview.

Of these, 893 women were interviewed in the thirty days of Data collection. Seven respondents were excluded in the Data analysis because they refused to give consent for the interview following the recruitment.

Data analysis showed that 666 (75%) of Respondent's last conception in the past five years were planned prior to conception, 162(18%) were unplanned but accepted and 65(7%) were unplanned and unwanted. Hence, 227(25%) of the conceptions were unplanned pregnancies.

Of the 893 women interviewed for their pregnancy outcome for their last conception in the past five years.732 (82%) had full term deliveries, 14(2%) had stillbirth, 25 (3%) had premature deliveries 52 (6%) had an abortion.

70(8%) of the interviewed women were currently pregnant by then when the survey was conducted for the interviews.

Of the 227 women who had unplanned pregnancies in their last conception in the past five years preceding this study, 136 (60%) were not using any method of contraception prior to the month of conception and 91(40%) used at least one method of contraception to prevent the an undesired conception. Hence 60% of women who did not want to conceive never used any method of contraception to prevent conception of undesired pregnancies.

Of the 52 abortions reported in the entire study population, 21(40%) were from unplanned conceptions and the rest 31(60%) were from planned conceptions.

Table 1: **Magnitude of Unplanned pregnancies by Respondent's age groups, Parity, Marital status and level of education in their last conception in the past five years.**

Characteristic	Respondent's Responses Planned n=666	Unplanned accepted n=162	Unplanned unwanted n=65	Total N=893
Age Groups.				
15 - 19	60(56.00)	39 (36.00)	8(7.45)	107
20 - 24	172(70.2)	60 (24.49)	13(5.31)	245
25 - 29	178(81.28)	33 (15.07)	8(3.65)	219
30 - 34	142(87.12)	14 (8.59)	7(4.29)	163
35 - 39	69(73.40)	10 (10.64)	15(15.96)	94
40 - 44	34(66.67)	6 (11.76)	11(21.57)	51
45 - 49	11(78.57)	0 (0.00)	3(21.43)	14
Parity.				
0	30(53.57)	19(33.93)	7(12.5)	56
1	198(73.33)	62(22.96)	10(3.7)	270
2	167(78.40)	39(18.31)	7(3.29)	213
3	128(85.33)	15(10.00)	7(4.67)	150
4	74(75.51)	13(13.26)	11(11.22)	98
≥5	69(65.09)	14(13.21)	23(21.70)	106
Marital status				
Maried /Cohabiting	495(80)	84(14)	38(6)	617
Single	101(59)	54(32)	6(9)	171
Divorced/widowed/ Separated	70(67)	4(23)	11(10)	105
Level of education				
No formal education	70(72.16)	16(16.49)	11(11.34)	97
Primary school	506(74.63)	129(19.03)	43(6.34)	678
Secondary school	68(72.34)	16(17.02)	10(10.64)	94
College/Univ. training	22(92.00)	1(4.00)	1(4.00)	24

N=total number of the respondents.
Numbers in brackets are percentages.

The proportion of women who reported to have had unplanned accepted

pregnancies decreased up to the age of 34 years and then started to increase up to the age of 44 years. These differences were found to be statistically significant.χ2trennd=50.94, P=0.00. Also the proportion of unplanned unwanted pregnancies decreased with age up to the age of 34 years and then started to increase up to the age of 49 years. These differences were found to be also statistically significant. χ2 for trend=27.584, P=0.000.

When parity of women were considered, the proportion of women who reported to have had unplanned but accepted pregnancies decreased as the parity of a woman increased. These differences were found to be statistically significant. χ^2=16.59, P=0.001. While that of unplanned and unwanted pregnancies decreased up to the parity of 2 and then started to increase. These differences were found to be statistically significant. χ2=8.84,P=0.003.

When the level of education of women were considered, the proportion of women who reported to have unplanned accepted pregnancies decreased as the level of education increased. These differences were found to be statistically significant. χ2 for trend=5.98,P=0.01. Also; that of unplanned unwanted pregnancies decreased as the level of education increased, these differences were found to be not statistically significant. χ2=2.016, P=0.15564.

Table 2: **Main reason given for wanting to postpone the conception until later by age groups and marital status**

	Respondent's Responses				
	Last child too young	Still at school	Opposition from partner	No permanent partner	Total
Age Group					
15 - 19	12(30.00)	16(40.00)	2(5.00)	10(25.00)	40
20 - 24	22(35.48)	18(29.03)	3(4.84)	19(30.65)	62
25 - 29	15(55.56)	2(7.41)	2(7.41)	8(29.63)	27
30 - 34	8(57.14	0(0.00)	2(14.28)	4(28.57)	14
35 - 39	9(75.00)	0(0.00)	0(0.00)	3(25.00)	12
40-49	5(55.56)	0(0.00)	3(33.33)	1(11.11)	9
Marital Status					
Married/ cohabiting	47(57.00)	10(12.00)	10(12.00)	*16(19.00)	83
Single	15(28.00)	20(37.00)	0(0.00)	19(35.00)	54
Divorced/ widowed/separated	10(40.00)	1(4.00)	2(8.00)	12(48.00)	25

*These respondents were not married/cohabiting by then, when they conceived the last reported pregnancy.
Numbers in brackets are percentages.

Many teenagers wanted to postpone their conceptions because they were still at school, the proportion for this reason decreased as the age of women increased, it was not a reason after the age of 29 years. Last child being still too young for another conception was the major reason at age ≥25 years.

Table 3: **Main reason given for not wanting to conceive at all by age groups and marital status**

	Respondent's Responses						
	Last child too young	Complete family	Still at school	Opp. partern	Econ. Inabil.	No parm partner	Total
Age Groups							
15 - 24	3(14.00)	0(0.00)	7(33.00)	0(0.00)	6(29.00)	5(24.00)	21
25 - 34	6(46.00)	0(0.00)	2(15.00)	2(15.00)	0(0.00)	3(23.00)	13
35 - 49	1(3.00)	23(74.00)	0(0.00)	3(10.00)	4(13.00)	0(0.00)	31
Marital Status							
Married/ Cohabiting.	8 (24.00)	16(48.00)	3(9.00)	1(3.00)	5(15.00)	0(0.00)	33
Single	4 (22.00)	4(22.00)	5(28.00)	0(0.00)	2(11.00)	3(17.00)	18
Divorced/ Widowed/. Separated	2(14.00)	6(43.00)	0(0.00)	2(14.00)	2(14.00)	2(14.00)	14

Numbers in brackets are percentages.

Women aged 15-24 years didn't want to conceive at all because of being at school, economical inability to support the child and lack of permanent sexual partner. Many of those aged 25-34 was due to last child being too young, and those aged 35-49 was due to completion of their families.

Table 4: **Prevalence of contraception use among respondents with unplanned pregnancies by demographic characteristics.**

Characteristic	Respondent's Responses: Contraception used n=91	Contraception not used n=136	Total N=227	
Age Groups				
15 - 19	4 (8.50)	43 (91.50)	47	
20 - 24	19 (26.03)	54 (73.97)	73	
25 - 29	24 (58.54)	17 (41.46)	41	
30 - 34	14 (66.67)	7 (33.33)	21	
35 - 39	19 (76.00)	6 (24.00)	25	
40 - 44	9 (52.94)	8 (47.06)	17	
45 - 49	2 (66.67)	1 (33.33)	3	
Marital Status				
Married/Cohabiting	57(47)	65(53)	122	
Single	17(24)	53(76)	70	$\chi 2=10.56$
Divorced/widowed /Separated	17(49)	18(51)	35	d.f=2 P=0.005
Parity				
0	2(7.69)	24(92.31)	26	
1	14(19.44)	58(80.55)	72	$\chi 2$trend=41.3
2	23(50.00)	23(50.00)	46	P=0.0000
3	11(50.00)	11(50.00)	22	
4	15(62.5)	9(37.50)	24	
≥5	26(70.27)	11(29.72)	37	
Religion				
Catholics	17(40.48)	25(59.52)	42	$\chi 2=1.95$
.Non Catholics	10(29.41)	24(70.59)	34	d.f=2
Moslem	64(42.38)	87(57.62)	151	P=0.38

N= total number of respondents

Numbers in brackets are percentages.

There was generally low contraceptive use among women prior to conceptions of undesired pregnancies but was even more so to teenagers than the older ones.

This was found to be statistically significant. $\chi 2=24.61$,d.f.=1,P=0.000001.

When marital status of women were considered, women who were single had the lowest proportion 24% of contraceptive use prior to conception of an undesired pregnancies. While women without permanent sexual partners (Divorced/widowed/separated) had the highest proportion 49% of contraceptive use prior to conception of the undesired pregnancies. This difference were found to be statistically significant $\chi 2=10.56$,P=0.005.

When the parity of the women were considered, Nulliparous women had the lowest proportion 7.69% of contraceptive use prior to conception of the undesired pregnancies while women who were para ≥ 5 had the highest proportion 70.27% of contraceptive use prior to conception of unplanned pregnancies. The contraceptive use of women increased as the parity increased. This difference were found to be statistically significant $\chi 2$trend=41.3. P=0.0000

When religions were considered. Christian had the lowest proportion 36% of contraceptive use compared to 42.38% for the Muslims prior to conception of unplanned pregnancies. This difference was found to be statistically not significant.$\chi 2=1.95$,d.f=2,P=0.38.

(Statistically insignificant!)

Table 5: **Main reason given by respondent's for failure to use contraception prior to conception of unplanned pregnancy by age group and marital status.**

	Respondent's Responses				
	No method known n=50	Opp. from partner n=14	Side effects n=69	Reli. reas. n=3	Total N=136
Age Groups					
15 - 19	21(48.83)	3(6.98)	18(41.86)	1(2.33)	43
20 - 24	25(43.86)	6(10.53)	25(43.86)	1(1.75)	57
25 - 29	2(11.11)	2(11.11)	14(77.78)	0(0.00)	18
30 - 34	2(28.57)	1(14.29)	4(57.14)	0(0.00)	7
35 -49	0(0.00)	2(18.00)	8(73.00)	1(9.00)	11
Marital Status					
Married/Cohabiting	.20(32.00)	10(16.00)	32(51.00)	1(2.00)	63
Single	24(45.00)	2(4.00)	26(49.00)	1(2.00)	53
Divorced/widowed/ separated	6(30.00)	2(10.00)	11(55.00)	1(5.00)	20

N= total number of respondents.
Numbers in brackets are percentages.

Lack of knowledge on contraceptives was the leading reason among teenagers for not using any method, while the older women were afraid of side effects.

Table 6: **Pregnancy outcome of the Respondent's last conception in the past five years**

Type of Conception	Pregnancy Outcome				
	Full term delivery	Premature delivery	Still birth	An abortion	Total
Planned	562(90.35)	18(2.89)	11(1.77)	31(4.98)	622
Unplanned accepted	123(87.23)	5(3.55)	2(1.42)	11(7.80)	141
Unplanned Unwanted	47(78.33)	2(3.33)	1(1.67)	10(16.67)	60
Total	732(89.00)	25(3.00)	14(2.00)	52(6.00)	823

Numbers in brackets are percentages.

$\chi 2=7.66$, d.f=1, P=0.006.

There was a significant higher rate of abortion in unplanned groups than in planned group. This difference was found to be statistically significant, $\chi 2=7.66$,d.f=1,P=0.006.

Table 7: **Type of abortion reported by the respondents with regard to the type of conception**

Type of Conception	Abortion		
	Spontaneous	Induced	Total
Unplanned (accepted)	5(45.45)	6(54.55)	11
Unplanned (Unwanted)	4(40.00)	6(60.00)	10
Total	9(43.00)	12(57.00)	21

Numbers in brackets are percentages.

There was high proportion of induced abortion to the unplanned unwanted pregnancies compared to the unplanned accepted pregnancies. However this difference was not statistically significant. Yates' corrected $\chi 2=1.87$, P=0.17158.

DISCUSSION:

As evidenced in the review of literature, the problem of unplanned pregnancies is worldwide despite availability of many contraceptive methods. It is even more prevalent in developing countries where there is low rate of contraceptive use, lack of awareness on contraceptive methods, presence of barriers of use from sexual partners, poor accessibility and lack of proper information about the feared side effects of contraceptives by many women. All these predispose many women to unnecessary high rate of unplanned conceptions, which are ultimately resorted to unsafe abortions by unauthorized practitioners.

This study has revealed that, the problem of unplanned pregnancies is prevalent among women in Dar es Salaam urban area. It has shown that, 25 percent of the last conceptions in the past five years preceding the study were unplanned pregnancies.

The proportion of unplanned pregnancies observed in this study of 25% is slightly higher than that of 24% reported by Tanzania Demographic and Health Survey four years ago[10]. This study interviewed women in their reproductive years who were currently pregnant and those who had at least one conception in the past five years preceding the study. Hence, there is a chance that, some of the unplanned.

conception may have turned into wanted pregnancy after the delivery of a baby, therefore were reported planned conception at the interview.

The absence of Data from Dar es Salaam rural setting might bias the results and for this reason, it would not be appropriate to generalize the findings to represent the general population of Dar es Salaam.

By dividing unplanned pregnancies into unplanned accepted and unplanned unwanted. The proportion of 18% of unplanned accepted conception in this study is slightly higher than that of 15% revealed in Tanzania Dermographic and Health Survey four year ago [10]. And the proportion of 7% for the unplanned unwanted conception in this study is slightly lower than of 9% reported four years ago by the same study [10]. This observation might be a result of differences in the target population of the respondents interviewed in these two studies. While in this study the respondents were interviewed on their last conceptions in the past five years whether was planned or not, and only involved respondents in urban area of Dar es Salaam., the other study interviewed up to three conceptions in the past five years of the respondent whether were planned or not planned prior to conception, and involved respondents in rural and urban areas of Tanzania.

Despite these differences, the overall proportions of unplanned pregnancies in these two studies were approximately the same.

60% of women, who reported in this study that their conceptions were undesired, never used any method of contraception to prevent that conception. This suggests that many women, despite not wanting to conceive at a particular moment, they never take precaution for contraception. Even though there is clearly known evidence that contraception is the first line of defense against unplanned pregnancies, it is also well known a properly used effective contraceptive method has a very low failure rate. It is interesting to see a high failure rate among those women who reported using a method prior to conception of the undesired pregnancies. It is likely the method used was the less effective type or the use was sporadic which ended in high failure rate of 40% to users.

Teenagers who were aged 15 to 19 years and who were also likely to be still schooling and not yet married had the highest proportion (44%) of unplanned pregnancies. 36% of conception in this age group were mistimed conception (unplanned accepted) and 8% unplanned unwanted conception.

It is not surprising to see that the same age group had the lowest proportion (8.5%) of contraceptive use prior to the conception of unplanned pregnancies, as well as the lowest knowledge on contraceptive methods. 48.83% of women in this age group knew no method of contraception to prevent conceptions.

Other studies also had revealed poor knowledge among teenagers regarding contraceptive methods[5,6,7,8,9,10].

A study on factors associated with induced abortion in Public hospitals in Dar es Salaam, showed that 70% of teenagers did not know any method of contraception[7] and in another study on women who knew at least one contraception method, 34.5% didn't know any method[10].

The greater differences in proportion of knowledge observed, in these three studies is likely attributed by the nature of the target population of teenagers interviewed. While the study which revealed lowest knowledge of 70% was a hospital based and involved teenagers who induced their abortion, the other which showed low knowledge of 34.5% was to any teenager in Tanzania regardless of prior history of conception, and it was to both rural and urban settings. This study has shown a low knowledge of 48.83%, was in urban areas of Dar es Salaam City to teenagers whom their last conceptions in the past five years were unplanned.

The proportion of unplanned accepted (mistimed) pregnancies in this study generally decreased as the age, parity and education of the respondents increased. When marital status were considered, single women had the highest proportion 31.58% while those with permanent sexual partners (married/cohabiting) had the lowest proportion 14% of unplanned accepted pregnancies.

The proportion of unplanned unwanted pregnancies were generally increasing with the increase in age and parity of the respondents, with the highest proportion 21.57% at the age group of 40 to 44 years and to women who were para ≥ 5 with a proportion of 21.7%. Women with stable sexual relations married/cohabiting had the lowest proportion 6% of unplanned unwanted pregnancies when marital statuses were considered.

Women with college/university training had the lowest proportion (4%) of the unplanned unwanted conception when compared with their counterparts with low levels of education.

This study has revealed that women with social demographic characteristics associated with high prevalence of unplanned pregnancies, are also the same

women with low levels of contraception use, and they share same social demographic characteristics.

Other studies had also revealed low contraceptive use associated with decreasing level of education, age and number of living children [7,10].

Knowledge on family planning methods and sources to obtain them is necessary to achieve the goals of preventing unplanned conception.

The main reasons given by the majority of women for not using any contraceptive method prior to conception of the unplanned pregnancies were lack of known method. This was the main reason given by the younger age groups ≥ 24 years old, and feared side effects was the main reason for women aged ≥25 years.

Other studies on contraceptive use[7,8,10] had revealed that lack of availability, religious reasons and opposition from sexual partners are other significant contributors as barriers for use of contraceptives, in this study these were not found as main contributing factors.

This study shows that, the main reasons given for not using contraceptives were the lack of knowledge on contraceptive methods and feared side effects. These women have not been well informed of the beneficial effects of contraceptives when compared to their little side effects and the consequence of induced unsafe abortion after getting unplanned pregnancies.

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Family planning in Tanzania is integrated in the maternal and child health services (MCH) for many years now. In addition, the Family Planning Association of Tanzania (UMATI), runs a separate service with its own clinics.

About 98% of pregnant women use the MCH services clinics in Dar es Salaam for antenatal care[10]. Therefore one impression which one may get from this study is that, the frequent use of the MCH clinics during pregnancy have not provided adequate Knowledge on contraceptive methods available and the lack of side effects. This may reflect a deficiency in our clinic-based family planning services and the way health care personal convey contraceptive information to their clients. To reach these women, vigorous outreach programs are needed and all health workers should be sensitized to discuss the issues of fertility preferences and the options of family planning whenever the opportunity arises.

Family planning workers are expected to visit women and men of reproductive age who are not using modern family planning methods to discuss the options and when indicated, motivate them to adopt a method of family planning. Health facility and extension workers are also expected to visit or discuss and motivate families for family planning while providing other health services.

For women who had unplanned unwanted conceptions, 78.33% of their pregnancies in this study were delivered at term. This may reflect the lack of reliable and safe legal pregnancy termination services to majority of women, together with the unaffordability of the service by many of those who get unplanned unwanted pregnancies and wants termination.

There were 21 abortions from the unplanned conceptions, of which, 11 were from unplanned accepted(mistimed) conception and the remaining 10 abortions were from unplanned unwanted conception. 6(54.55%) of the abortions from the unplanned accepted conception were induced and 6(60%) from unplanned unwanted were induced abortions

It should be put in mind that some of the unplanned conceptions do change to wanted conception after the deliveries of the children, hence the proportions of unwanted pregnancies are usually under reported.

This study like others done elsewhere [1,4,6,7,8,18] therefore demonstrates clearly that unplanned conceptions are at high risk of being aborted than the planned ones, P=0.006, and most likely by unsafe terminations.

CONCLUSION:

1. Unplanned pregnancies are significant public health problem in Dar es Salaam urban especially among teenagers.

2. Unplanned pregnancies were associated with higher rate of abortions than planned ones.

3. Contraceptive use was generally low among women with unplanned pregnancies. But even more so among teenagers than older women in Dar es Salaam urban areas.

RECOMMENDATIONS:

1. In order to reduce the problem of unplanned pregnancies; there is a need to change the current clinic – based family planning services which mostly concentrates to provide contraceptive to those clients who visit them. And do establishment of vigorous outreach programme to reach all eligible couples and individuals who are sexually active. Correct information about contraception and modern methods of contraception to all eligible individuals at community level to be offered with great emphasis to the information on the little side effects which can be encountered from contraceptives for a well chosen method to fit the individual client.

2. Effective sexual education programmes must be instituted for the in and out of school teenagers and among of all other things, knowledge on modern contraceptive methods be offered to them.

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