FACTORS ASSOCIATED WITH USE OF HERBAL DRUGS DURING PREGNANCY IN RUNGWE DISTRICT, MBEYA REGION, TANZANIA

By

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A Dissertation Submitted in Partial fulfilment of the Requirements for the Degree of Master of Public Health of Muhimbili University of Health and Allied Sciences.

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by Muhimbili University of Health and Allied Sciences dissertation entitled **"FACTORS ASSOCIATED WITH USE OF HERBAL DRUGS DURING PREGNANCY IN RUNGWE DISTRICT, MBEYA REGION, TANZANIA"** in partial fulfilment of the requirements for the degree of Master in Public Health of Muhimbili University of Health and Allied Sciences.



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Date 18.10.2010

DECLERATION

I, **Frank Jacob**, 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.

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ABSTRACT

Although there is no report directly linking between the use of herbal drugs during pregnancy and maternal or foetal mortality, several studies reveal the adverse effect of herbal medicine to the foetal and pregnant mothers. The use of herbal drugs during pregnancy in Tanzania is a common practice. However, little is known regarding prevalence and factors associated with use of local herbs during pregnancy.

This study collected data from 253 women in four villages of Rungwe District Mbeya Tanzania. Data were collected using questionnaire in June 2010. Questionnaire was based on factors, prevalence, and perception of local herbal use among pregnant women.

Data were analysed as frequencies, percentage as well as analysis of variance.

One third of the respondents had used herbal drugs during pregnancy. Distance from health facilities, and age of the respondents were found to have association with use of local herbs among pregnant women. Negative perceptions on local herbs use during pregnancy have protective effect on the use of local herbal during pregnancy.

Health education on the danger of using local herbs during pregnancy should be provided to mothers and general population especial women approaching reproductive ages who are expected mothers, because their information may influence their decision. Also, District and national level authorities should insist the construction of health facilities near to the community to improve conventional health services accessibility.

LIST OF ABBREVIATION

WHO	-	World Health Organization
MDG's	-	Millennium Development Goals
DSM	-	Dar es Salaam
USA	-	United States of America
RCH	-	Reproductive and Child Health
HMIS	-	Health Management Information System
SPSS	-	Statistical Package for Social Sciences
UNICEF	-	United Nation Children Funds
RA	-	Research Assistance
PI	-	Principal investigator
TBA	-	Traditional Birth Attendant
MNH	-	Maternal and New Born Health
NSGRP	-	National Strategy of Growth and Reduction of Poverty
TGPSH	-	Tanzania-Germany Program to Support Health

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Back ground to the problem

Herbal medicines are defined as plant derived material or preparations with therapeutic benefits, and contain raw or processed ingredients from one or more plants (WHO, 2000). Herbal drug is the oldest form of health care known to man kind. Herbs had been used by all cultures throughout history. However, herbal drug has long and respected history. Many familiar medication of twenty century were developed from ancient healing traditions that treat ill problems with specific plants. Many plant components are now synthesized in large laboratory for use in pharmaceutical preparation. For example incrusting, digitalis and ephedrine. Twenty five percent of drug manufactured in the USA contain at least one active ingredient of herbal drug, the World Health Organization (WHO) estimate that 4 billion people which is 80% of the world population use herbal medicine as part of primary health care. (WHO, 2007)

The use of herbal medicine has expanded globally and has gained popularity. It has not only continued to be used for primary health care of the poor in developing countries, but has also been used in countries where conventional medicine is predominant in the national health care system (WHO, 2000, Goldback-wood et al, 1996).

Maternal mortality in Tanzania is about 578 per 100,000 live births and Tanzania is among the countries with high maternal mortality in sub Saharan African countries. Maternal mortality reduction is included among the Millennium Development Goals (MDG 5) (WHO: World Health Statistics 2007 WHO Maternal mortality in 1995). Recognizing the lack of progress on MDG 5 and the high rates of maternal mortality and morbidity in Africa over the last two decades, WHO recommends that countries should develop a national Road Map for accelerating the attainment of the Millennium Development Goals (MDGs) related to maternal health. The general objective of the Maternal and New born Health (MNH) Road Map is: "To accelerate the reduction of

maternal and newborn mortality and the attainment of the MDGs in Africa". One of the specific objectives is "To provide skilled attendance during pregnancy, childbirth, and the postnatal period, at all levels of the health care delivery system(African MNH Road maps Assessment ReportLuc de Bernis, Yaron Wolman – July 2009).

It will be difficult to achieve this MDGs when many of pregnant women depend on use of local herbs and from local healers rather than been attended by skilled birth attendant as it has been emphasized in the specific objective of MNH Road Map. Though there are no published study directly linking herbal medicine use in pregnancy with maternal death, several studies have found herbal medicine use in pregnancy is associated with congenital malformations (Takei et al, 1997; Chan et al, 2003; Noordalilati et al, 2004), intrauterine growth retardation, decreased foetal survival rates (Sulaiman et al, 2001), low birth weight (Morris and Mdlalose, 1991), foetal distress (Mabina et al, 1997), foetal hypoxia and premature delivery as a results of uterine hyperstimulation (Veale et al, 1998), which may lead to prenatal and maternal mortality.

The use of herbal medicine has been on increase in many developing and industrialized countries (Furnharm, 1996; Ernst 2003). It is known that between 65% and 80% of the world's population use herbal medicines as their primary form of health care (Eisenberg et al, WHO, 1998). Patient who likely to have adverse effect due to herbal medicine are not deferent from those who may develop effect due to modern medicine like pregnant and lactating women (Drew, 1997; Philipson et al, 1984; Roulette et al, 1988; Saxe 1987; Gold 1980). In developing nations most traditional healers, regulation of sales, and manufacturing of herbal medicines are not subject to rigorous inspection in terms of safety and efficacy as is the case for conventional western/allopathic medicines since they provide these service in their home and not in the registered apartments like shop and market (Barnes et al, 1998)

Knowledge of potential side effects of many herbal medicines in pregnancy is limited (Maats et al, 2002; Tsui et al, 2001; Ernst et al, 2002; Laroix et al, 2000). Some herbal products may be teratogenic in human and animal models (Dugoua et al, 2008; Goel et

al, 2006; Pakrashi et al, 1977; Seely et al, 2008). Data on the extent of women's use of herbal medicines during pregnancy is scanty especially in sub-Sahara Africa, where the legislation for distribution and purchase of herbal medicines is not as stringent as it is for conventional medicines (Adisa et al, 2006).

Literature shows that for many years women have used herbal drug during pregnancy to treat pregnancy related illnesses and for their own health and well being (Goldback-wood et al, 1996).

For instance, some few studies conducted in developed countries show that more than 10% of pregnant women reported the use of herbal medicinal products in Finland, Australia, and United States (McLennan et al, 2002; Pastore et al, 1991; Forster et al, 2006; Nordeng et al, 2004).

A study carried out in Nigeria to evaluate the use of herbal medicines among pregnant women revealed (12.08%) use of herbal medicine and most common to nulliparous 41.82% (Gharoro et al, 2000).

Although this was after 25 years, studies shows use of local herbs is common practice in Tanzania. Study conducted in Tanga region Tanzania use of local herbs among pregnant women found to be (42%). The highest use rate is towards the end of the 1st trimester and during labour, for a total of 87.7%. Of the users, 54% use local herbs to relieve pregnancy-associated symptoms, while the rest used it as a consequence of beliefs, possibly superstitious, circumstantial constraints, and combinations of these. Significant differences were found between women delivering at home (55% used herbal medicine) and in a modern health facility (38.8%), P=0.038 between Moslems (44.4%) and Christians (32.2%), P=0.22, and among tribes (Mbura et al, 1985) Therefore it is important to assess the magnitude of use of local herbs during pregnancy. This is because complications due to herbs may lead to life threatening to pregnant mothers and unborn child.

1.2 Statement of the problem

Use of herbal medicine is common in Africa and world wide in general. This is common practice in people suffering from different disease but also pregnant women.

Previous study done in Tanzania in the relation to herbal drug use during pregnancy reveals prevalence of 42 %(Mbura et al, 1985).

The finding from previous studies generally provide the information that are outside Tanzania and the one which conducted in Tanzania can not represent the general population.

However data on the extent, associated factors and perception of women's use of herbal medicines during pregnancy is scanty especially in sub-Sahara Africa, where the legislation for distribution and purchase of herbal medicines is not as strict as it is for conventional medicines (Bury et al, 1987).

There is need to conduct a study that will partly ascertain the current situation of herbal use during pregnancy among Tanzania women. In addition to that, this study will also give chance to compare with study conducted in Tanga where cultural, geographical economic, practice and belief are different. Tanga is found in the coat area and people depends on fishing and small business while Rungwe is found in the southern high lands and community depends on small scale farming and business. In terms of belief most of costal area people are Muslim but in Rungwe most are Christian.

1.3 Objectives

Broad Objective

Assessment of factor associated with use of herbal drug during pregnancy in Rungwe District Mbeya.

Specific objectives objective of the study were:

1. Determine prevalence of herbal drugs use during pregnancy in Rungwe District
2. Determine the association of health services accessibility on the use of local herbs during pregnancy in Rungwe District.
3. Determine the association of local herbs perception on the use of local herbal during pregnancy in Rungwe District
4. Determine the association of disease pattern on the use of local herbs during pregnancy in Rungwe District.

1.4 Research Questions.

1. What is prevalence of using herbal drug during pregnancy among pregnant women?
2. What are the factors associated with using herbal drug during pregnancy
3. What is the quality of health services for pregnant women in Rungwe?
4. What are perceptions of women on use of local herbs among pregnant women?

1.5. Significance of the study

Findings of the study are expected to provide better understanding of the problem of use of herbal medicine to pregnant woman especially on the factors associated with the use hence provision of proper prevention measure to reduce maternal morbidity and mortality associated with use of local drug during pregnancy.

The findings of the present study have important information to the district health authorities and policy makers on the possible approaches for optimal control prevalence of use of local herbs during pregnancy hence prevention complication related herbal drug use during pregnancy.

Furthermore, information in this study provide practical experiences as well as giving empirical information on how pregnant mother may be targeted depending on their demographic characteristics in an effort to reduce herbal use during pregnant. Also findings of this study provide information to the clinician and nurses working with maternal and child health on the extent of herbal medicine use among the pregnant mothers.

CHAPTER TWO

2.0 LITRETURE REVIEW

2.1 Traditional medicine

Traditional medicine has long history. It is the sum of knowledge, skill and practice base of the theories, beliefs and experiences indigenous to different culture whether explicable or not, use in maintaining of health, as well as in prevention, diagnosis improvement or treatment of physical and mentally illness. The term complementary/ alternative/non-conventional herbs medicine are used interchangeably with traditional medicine (WHO, 2000).

2.2 Herbal medicine

Herbal medicine is the mixture of herbs which include material such as leaves flower fruits, seed stems, wood, barks, root or other parts of plants and herbal materials which constitute fresh juices, gums, fixed oil essential oils, reins and In some countries, these materials may be processed by various local procedures, such as steaming, roasting, with honey, alcoholic beverages or other materials (WHO, 2000)

Some times they defined herbal medicine as variety of therapeutic or preventive health care practice that do not follow generally accepted medical methods and may not scientific explanation on their effectiveness. However many drug that are considered conventional medications were originally derived from herbs for example salicylic acid, morphine and codeine, vincristine, taxol and ephedrine.

2.3 Use of herbal medicine during pregnancy

The use of herbal medicine by pregnancy women is practice that has to be addressed because has not been officially recognized in most countries. The safety and efficacy data on traditional medicine are far from sufficient. Like other conventional drug they have side effects, toxic level and contraindication especial during pregnancy period. Prevalence of herbal use medicine range differently across the world, in the developed

country averages are as following. Germany 80%, Canada 70%, France 75% Australia 48%, and USA 42%. Prevalences are almost the same when we look at the developing countries. Ethiopia 90% Benin 70%, Rwanda 70% Tanzania 60% (WHO traditional medicine department, 2001)

2.4. Health system factors

Pregnancy women like other individual their health utilization behavior are influenced by many factors. A variety of factors have been identified as the leading influences on utilization of primary health care services the socio-behavior or Andersen model (Andersen & Newman, 1973) group in a logic sequence three clusters or categories of factors (predisposing, enabling and need factors) which can influence choice of health behavior. The model was specifically developed to investigate the biomedical health services. Latter version was extended the model to include other health care like traditional medicine and domestic treatment (Rauyajin, 1991).

Choice of use whether home remedies (herbal, pharmaceuticals), pharmacy, over the

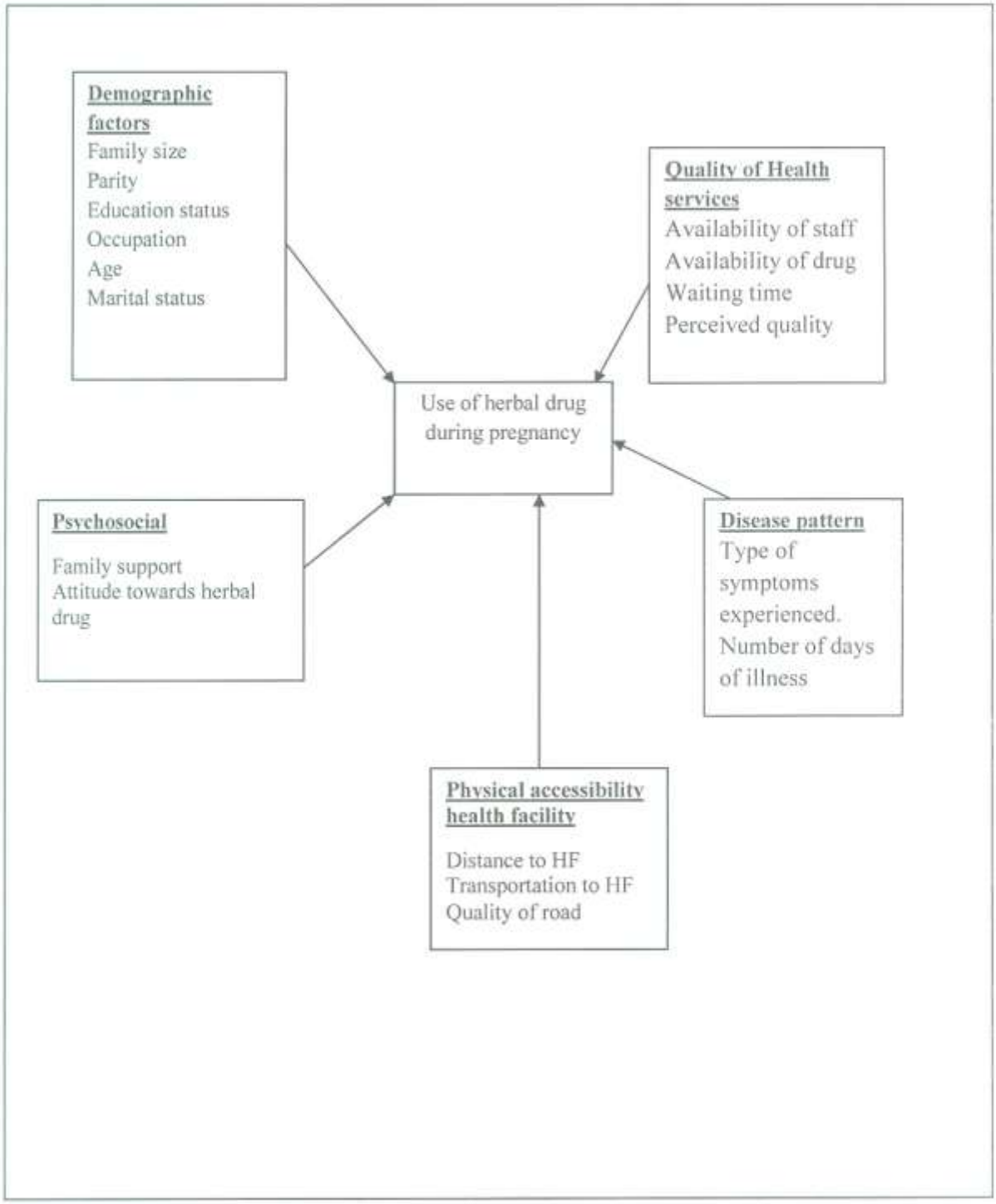
counter drugs from shops, traditional healers, private medical facilities, public health services etc; is controlled by group of factors which are predisposing factors: age, gender, religion, global health assessment, prior experiences with illness, education level, general attitudes towards health services, knowledge about the illness etc, enabling factors which include availability of services, financial resources to purchase services, health insurance, social network support etc, and need factors which are like perception of severity, total number of sick days for a reported illness, total number of days in bed, days missed from work or school, help from outside for caring (Weller et al, 1997).

2.4 Safety, effectiveness and quality:

Scientific evidence from the test done to evaluate the safety and effectives of traditional medicine product and practice is limited. While evidence shows that some herbal medicines are effective for specific conditions, further study of product and practice is

needed. Requirement and methods for research and evaluation is complex. For example it can be difficult to assess the quality of finished herbal product. The safety, effectiveness and quality of finished herbal medicine product depend on the quality of their source material (which can include hundreds of natural constituents) and how element are handled through production process.

Fig. 1.Problem analysis and factor associated with use of herbal drug during pregnancy



3.0 METHODOLOGY

3.1 Study design

Analytical cross sectional study design was used to compare groups and establish association between factors associated with use of herbal drug during pregnancy and the practice of use herbal medicine during pregnancy.

3.2 Study area

This study was conducted in Rungwe District in Mbeya region. The main reason for selecting Mbeya was the presence of both modern and traditional health service practices. The district is also relatively small geographically which allow convenience during the study.

The District is situated in southern of Tanzania in Mbeya region and it has four administrative divisions, 30 wards and 162 villages. Also it has 63 health facilities both public and private owned. Among the 63 health facilities 5 are heath centres and 3 hospitals. 2 hospitals belong to faith based organization and district hospital belongs to government. According to HMIS report of 2009 the district has 6836 delivery per year of which 5523 delivered in the health facilities and the rest occur at home and on the way to health facilities. Also district has a total of 75,405 women of child bearing age. According to the 2002 Tanzania National Census, the population of the Rungwe District was 307,270 (CCHP 2000/2010).

3.3 Target population

Study target population was mother who delivered the child not more than one year period. Reason for selection of mother delivered not more than one year was to make them easy to recall any type of drug used during pregnancy. In addition this target population captured even mothers who for any reason may have not attended services in the health facilities. According to Rungwe District comprehensive plan of 2010/2011 District has 75,405 women of child bearing age 162 villages and 65,356 house holds.

3.4 Sampling procedures

A multistage random sampling technique was used to select study sample. Total of 253 mothers who delivered not more than one year was involved in the study. Rungwe District was selected by convenience and reasons for convenience selection are mentioned in the study area.

Sampling steps were as follows

1. List of 4 division forming the sampling frame
2. Out of four divisions two were selected purposely(Tukuyu town as town setting and Kikukwe as rural setting)
3. From each division one ward was selected randomly selected. Bulyaga and Bagamoyo were selected from tukuyu division (Bulyaga and Bagamoyo are only ward and same time only villages of Tukuyu town division). Kiwira was selected from Kikukwe division
4. From each ward two villages were randomly selected which were Bulyaga and Bagamoyo from Tukuyu Town, Kikota and Ibula from Kiwira

From the selected villages a sampling frame of eligible house holds with a mother delivered within last one year were obtained from the Village health workers (VHW).

Stratified sampling procedure was used to obtain sample. Four villages were taken as stratum. Proportional allocation formula was applied to obtain sub sample from each village where size of the sample in each stratum (Village) is taken in proportion to the size of the stratum.

Number of eligible mothers in each village was:-

- Bulyaga: 328
- Bagamoyo: 400
- Kikota: 119
- Ibula: 235
- Total: 1082

We are supposed to have 286 participants in our study.

From the total number of the eligible mother in four villages (1082) percentage in each village were calculated.

- %Bulyaga = (328/ 1082) x 100 = 30
- % Bagamoyo = (400 / 1082) x100 = 37
- % Kikota = (119/ 1082) x 100 = 11
- % Ibula = (235/ 1082) x 100 = 22

From sample of 286 participants that we are supposed to recruit

30% of 286 is equal 87 were selected from Bulyaga

37% of 286 is equal 106 were selected from Bagamoyo

11% of 286 is equal 31 were selected from Kikota

22%of 286 is equal 62 were selected from Ibula

In the house hold only one participants was selected. Mothers with younger child were preferred than mother with older child to minimize recall bias.

Table1: Selected house hold among the eligible house hold in the district

SN	Village	Eligible House holds	Selected household	Actual household/respondents
1	Bulyaga	328	87	73
2	Bagamoyo	400	106	88
3	Kikota	119	31	31
4	Ibula	235	62	61
	TOTAL	1082	286	253

3.5 Sample size

The sample size was calculated using single sample formula. Taking the precision level of 0.06 the value of standard normal distribution of 1.96 and the prevalence of herbal drug use during pregnancy of 0.42 (obtain from the study conducted in Tanga by Mbura et al, 1985 among pregnant women attending antenatal clinic). The minimum sample size required was 260 subjects.

$$N = Z^2 p (1-p)/E^2$$

Where by: N = Sample size

Z = constant standard normal deviation

P = proportion of mothers who use local herbal medicine (Mbura et al 1985)

E = maximum error.

$$N = \frac{1.96^2 p (1-p)}{E^2}$$

$$= \frac{3.841 \times 42 \times (100-42)}{6^2}$$

$$= 259.948$$

Therefore, the required minimum sample size of respondents was 260.

3.6 Recruitment training

Before data collection training was conducted to 4 research assistants. Recruited research assistants were village health workers with experience on health issue especially maternal health. Training was focused on the research data collection tool general objective and specific objectives.

3.7 Pre testing

Data collection tools were pre tested at Kimazinchana in Mkuranga District. The district was selected because it is a rural district as Rungwe district. A total of about 6 women with history of delivered not more than one year were involved in the pilot test. The purpose of pre-test was to verify weather the tool would collect desired information as well as assuring consistency of questions. Necessary modifications were made before data collection.

3.8 Data collection

Data were collected by the Principal investigator (PI) and other research assistants using questionnaire with structured questions. Supervisions were done by the PI every day to ensure completeness and accuracy of questionnaires. Questions were asked in Kiswahili after they were translated from English. Translation was done by translating English version to Kiswahili and then translated back to English in order to avoid any distortion of the meaning. Questionnaire had four sections; demographic and social-economic characteristics herbal drug use during pregnancy accessibility of health services and perception on the herbal drug use during pregnancy.

Demographic and social demographic

This section was generated demographic and social economic factors that are associated with use of herbal drug during pregnancy. Variable included age in year, marital status religion education level, source and amount of income.

Use of herbal drug

This section was intended to ask questions that measure the use of herbal drug during pregnancy and reasons for their use, type of drug, who prescribe her the herbal drug, at what gestation age she stated taking the drug how frequency. In this study, mothers were considered as herbal drug users if they took herbal drugs orally other route of administration like topical application and preparation that consumed as nutrients and within were excluded.

Perception of use of drug during pregnancy

This section had five questions that were assessing the perception of the mothers on the use of herbal drugs during pregnancy. If they think there are benefits of using herbal drug compared to modern drug this include safety, efficacy and affordability.

Perceptions of the respondents were measured by respondents answer which were strong agree, agree, disagree and strong disagree from the five questions.

Scored of the question were as mentioned in the table number 2

Table 2: Score

RESPONDS	Strong agree	Agree,	Neither agree or disagree	Disagree	Strong disagree
SCORE	1	2	3	4	5

Before analysis reliability test was done to measure internal consistency of the question

Reliability was 0.698 (Cronbach's Alpha value) before 1 item deleted. After deletion of one item the reliability increases up to 0.872 which show good internal consistency reliability for the scale. Deleted item was "It is not acceptable for a woman with pregnancy to take herbal drug"

Score in five questions were range from 4 to 20. Respondents who scored 4 to 11 were taken as having positive perception on use of local herbs during pregnancy. And those who scored 12 to 20 were taken as having negative perception against use of local herbs during pregnancy.

Table 3: Reliability analysis of the perception items (N=253)

Item	*Mean	SD
Herbal medicine are safer than modern medicine to use during pregnant	3.69	1.1
Herbal drug are cheap compare to hospital drugs	3.46	1.3
Herbal drug help to safe delivery	3.57	1.27
Herbal drug treat better diseases that are not properly treated in the hospital	3.51	1.25

- Scale range: From 1 to 5

3.9 Data analysis

Questionnaires were first checked for completeness and accuracy. It was also coded before computer data entry in the SPSS (version 15.0) data base. Data obtained from the questionnaires were processed using SPSS program and analyzed. Continuous variables were recorded as mean and standard deviation (SD). Categorical variables were recorded

as frequency and percentage. Descriptive statistics was used to calculate characteristics of variables, cross tabulation to determine association between variable and use of herbal drug during pregnancy were performed. Chi –square test was used to compare proportions. Also One way ANOVA was used to compare means for perception score.

3.10 Ethical considerations

Ethical clearance was obtained from Muhimbili University of Health and Allied Sciences Research and Publication Ethical Committee. After permission from the district Authorities, letter from the District office were sent to division and ward administrative secretary then to village chairman and Village health worker to inform about the study.

Informed consent (verbal/written) from study participants was used (see appendix 4) which elaborate study objectives, methodology and benefits also explain to those who agree to participate. Only those who consent were interviewed. Mothers were consent by sign on the consent form. For illiterate mothers consent were given by putting finger print on the consent form. Participants were assured of confidentiality by assigning them with numbers instead of names.

3.11. Limitation

Since the district of conducting this study was purposively selected. It is difficult to generalize these findings to general population in Mbeya or Tanzania at large.

Information from the sample is prone to error particularly when it comes from portion of the population of interest rather than the whole population

Structure prepared questions are prone to have recall bias since the information requested from the mothers some of them occurred twelve months ago

CHAPTER FOUR

4.0 RESULTS

4.1 Description of the study sample

A total of 253 women with a child of less than 1 year of age were interviewed in Rungwe district. These mothers were from two divisions namely; Tukuyu town and Ukukwe. The mean age of study participants was 28 (SD= 6.2). The mean parity was 3 children (SD=1.6). Majority of the respondents (82.2%) were married. Almost all (97.2%) participants were Christians. Also it was found that more than half of participants were peasants 140 (55.6%). About 219 (86.6%) attained Primary education level. With regard to location of participants 161(63.2%) were recruited from Tukuyu town which is the urban area and the rest were recruited from Kiwira which is the rural area. Demographic characteristics of participants are presented in Table 1.

Table 4: Demographic characteristics of respondents

Characteristics	n	(%)
Age group		
15-30	170	67.2
31-45	83	32.8
Marital status		
Single	30	11.9
Married	208	82.2
Separated	2	0.8
Highest Level of education		
No formal education	12	4.7
Primary school	219	86.6
Secondary school and above	22	8.7
Occupation		
Peasants	156	61.7
Employed	9	3.5
small busness	88	34.8
Religion		
Muslem	3	1.2
Christian	250	98.8
Location (Division)		
Tukuyu Town	161	63.6
Ukukwe	92	36.4
Location (Ward)		
Bulyaga	73	28.9
Bagamoyo	88	34.8
Kiwira	92	36.4
Location (Village)		
Bulyaga	73	28.9
Bagamoyo	88	34.8
Kikota	31	12.3
Ibula	61	24.1

In table 5 out of 253 respondents 199 (78.7%) reported to have ever heard about local herbal use during pregnancy. The prevalence of local herbs consumption in the study was 76 (30%). There was slight high use of local herbal among the age group 31-45 (42%) compared to the other age group 15-30(36%) Among the Muslim respondent all (100%) agreed to have ever used local herbal during pregnancy.

Table 5: Characteristics of women in study according to use of herbal drug during pregnancy (N= 253)

Characteristics	No	Used herbs during pregnancy n (%)	Never used herbs during pregnancy n (%)
Age group(years)			
15-30	170	47 (27)	133 (67)
31-45	83	29 (35)	54 (65)
Marital status			
Single	12	6(50)	6 (50)
Married	219	65(30)	154 (70)
Separated	2	5(40)	3 (60)
Level of education			
No formal education	12	3 (25)	9 (75)
Primary education	219	63 (29)	156 (71)
Secondary and above	22	10 (45)	12 (55)
Occupation			
Peasants	156	46(29)	110 (71)
Employed	9	4 (44)	5 (56)
Small business	88	26 (29)	62 (71)
Parity			
1	64	11 (17)	53 (83)
2-4	157	52 (33)	72 (67)
Above 4	32	13 (41)	15 (59)

4.2 Situation of Local Herbs in the study area

One hundred and fifty three (76.9%) mothers declared to have women at their areas who used local herbs when they were pregnant while 6 (2.4%) didn't know. The remain proportion disagree the presence of local herbal users in their area. Results show that out of 253 respondents, 38 (15%) were planning to take herbs in the future pregnancy. Out of 76 respondents who declared that they used the herbs when they were pregnant, 28 (36.8%) responded that they were planning to take herbs in the future pregnancy. Majority of the respondents who declared to use herbs (88.2%), their family monthly income level was less than TShs 60,000/=. Reasons for using herbs were chronic illness (34.2%), acute illness (22.4%) and the rest had no reasons. Twenty three percent of respondents said that they were ready to recommend other women to use herbs while the rest were not ready to do so. About (56%) of the respondents didn't know the complications associated with the use of herbs during pregnancy period. About (78.3%) of the respondents had negative perception toward use of herbs while the rest had positive perception on the use of herbs.

Table 6: Shows Association between the social demographic characteristics and use of local herbs during pregnancy show no statically significant with participant's levels of education, income of the house hold and occupation. It was found that mothers who have high parity (above 4 children) majority (46.4%) were using local herbs during pregnancy compare to mothers with parity of 2 to 4 and one child 41.9% and 23.4% use local herbs during pregnant respectively.

Table 6: Association between demographic characteristics and use of local herbs during pregnancy

Factors	N	Use of traditional herbs		P-Value(Chi-Square)
		User n (%)	Non User (%)	
Age group				
15-30	130	47 (36.1)	83 (63.8)	0.254
31-45	69	29 (42)	40 (58)	
level of education				
No primary education	12	3 (25)	9 (75)	0.432
Primary education	166	63 (38)	103 (62)	
Secondary and above	19	10 (47.6)	11(52.4)	
Occupation				
Peasant	127	46 (36)	81 (64)	0.734
Employed	9	4 (44.4)	5 (55.6)	
Small business	63	28 (44)	35(56)	
Parity				
1	45	11(23.4)	36 (76.6)	0.052
2 to 4	124	52 (41.9)	72 (58.1)	
above 4	28	13 (46.4)	15 (53.6)	
Location				
Urban settings	122	49 (40.2)	73 (59.8)	0.285
Rural settings	77	27 (35.1)	50 (64.9)	
Total	**199**	**60(30)**	**139 (70)**	

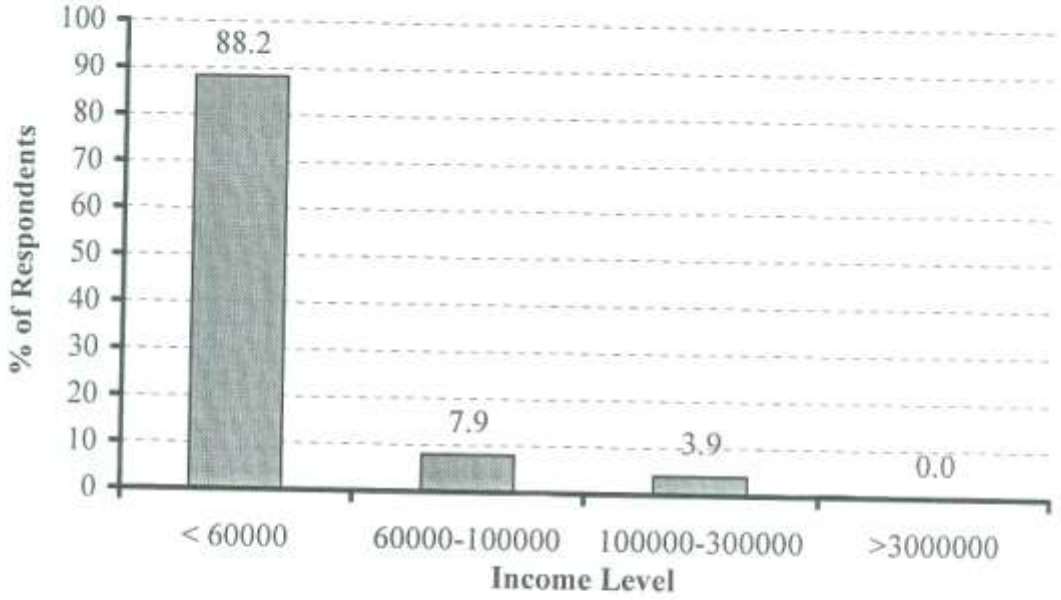


Fig 1.Prevalence of herbs consumption by household income level

Friends were reported to be the most sources of information about herbs taken during pregnancy by (62.3%). Very few mothers (3.5%) reported to have ever heard it from traditional healers.

Table 7: Source of Information

Source of information	Frequency	Percentage
Friend	124	62.3
Relative	50	25.1
Mother	26	13
Grand mother	27	13.6
Media	8	4
TBAs	50	25.1
Local healers	7	3.5
Others	9	4.5

NB: Note that the percentage add up to more than 100 as more than one sources could be given

Table 8 show that most of women (40.8%) used local herbs during the third trimester. Also some of them reported to have taken herbal drugs before pregnancy (18%).

Table 8: Period during pregnancy in which women used local herbs

Period	N	%
Before pregnancy period	14	18.4
First trimester	16	21.1
Second trimester	7	9.2
Third trimester	31	40.8
The whole pregnancy period	8	10.5
During labour	18	27.7
After delivery	2	2.6

Table 9 indicates more than half local herbal users (55.3%) received herbal drugs from the Traditional Birth Attendants (TBAs).

Table 9: Reported sources of local herbal

Source	Number (n=76)	(%)
From TBAs	42	55.3
Friends	11	14.5
Relative	11	11.5
Mother in law	11	14.5
Self prepared	9	11.8
Mother	8	10.5
Grand mother	4	5.2

NB: Note that the percentage add up to more than 100 as more than one sources of local herbs may have been reported

Majority of users decided on their own (40%) to use local herbs during pregnancy. Only three (3.9%) of the users used herbs due to suggestion of their spouses.

Table 10: Decision for Pregnant Women to take Local Herbs?

Person who influence decision	Frequency	Percentage
Herself	31	40.8
In law	19	25
Other	12	15.8
Parents	11	14.5
Husband	3	3.9
Total	**76**	**100**

Table11: shows that about half (51.3%) of those who used herbs drugs during pregnancy was because herbal drug would help them during delivery.

Table 11: Reasons for deciding to use Local Herbs

Reason	Number of respondents	Percentage
Long distance to and from the earth facility	12	15.8
Lack of money to pay for services	8	10.5
Local herbal are much better than modern medicine	7	9.2
Local herbal are easily accessible	13	17.1
Make easily delivery	39	51.3

Figure 2 show most of mothers 43.4% used local herbs due to other reasons and not disease. More than one third of mothers used local herbs during pregnancy due to chronic illness and the rest due to acute illness.

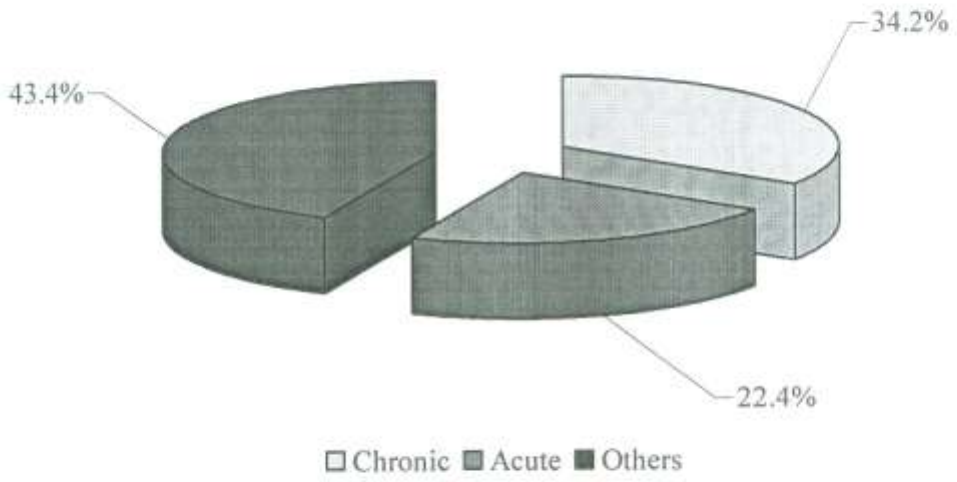


Figure 2: Reasons for the mother to take local herbs

Table 12 participants were asked on what they believed was the outcome of local herb used. Majority (63.2%) of those who used herbs during pregnancy reported to have had safe delivery. Minority (14.4%) reported to have difficulties during labour

Table 12: Outcomes of Using Local Herbs during pregnancy

Effect	Respondents	Percentage
Safe delivery	48	63.2
Other	17	22.4
Difficult labour/pregnancy	9	11.8
Very difficult labour pregnancy	2	2.6
Total	**76**	**100**

In table 13 majority of the respondents (40.2%) mentioned foetal death as complication of herbal medicine during pregnancy

Table 13; Awareness of the complication associated with the use of herbs N = 112

Complication	Respondents	Percentage
Foetal death	45	40.2
Strong labour	39	34.8
Fetal distress	33	29.5
Rupture uterus	28	25.0
Obstructed labour	25	22.3
Premature birth	21	18.8
Miconium staining	11	9.8
Other	9	8

NB: Note that the percentage add up to more than 100 as more than one complication were reported

4.3 Accessibility of health services

Out of 253 respondents, 162 (64%) reported that their facilities are open every day while the rest said on week days only. Inquiring on specific time when the facilities are open for services, majority 212 (83.8%) of the respondents declared that their facilities are opened early in the morning. The rest reported that their facilities were opened late. The results also revealed that about (53%) of the facilities were opened during night and week end while (47%) said they were not. Majority 246 (97.2%) of the respondents agreed that their health facilities provided reproductive health services. About 97% of the respondents said that their facilities provide delivery services.

Table 14 shows among those who stay within 5 kilometres to the nearest health facilities majority 110 (67.5%) were not using local herbs during pregnancy. As the distance increase the tendency of respondent to use local herbal increase (P value < 0.01)

Table 14: Distribution of responds on use of local herbal according to distance to nearest health facility

	Number of responds	
Distance	**User of local herbal**	**Non user of local herbal**
	n (%)	**n (%)**
< 5 km	53 (32.5)	110 (67.5)
5-10 km	14 (66.7)	7 (33.3)
>.10 km	9 (60)	6 (40)
Total	**76**	**123**

Local herb use was significantly associated with distance to a nearest health facility (P value < 0.05). Association of local herb use with economic level, client waiting time and confidentiality were not statistically significant

Table 15: Association between accessibility of health services and use of local herbal during pregnancy

Factors	N	User n (%)	Non User(%)	P-Value
Time to wait services				
Short	46	15 (32.6)	31(67.4)	
Normal	139	56 (40.3)	83 (59.7)	
More waiting time	14	5(35.7)	9(64.3)	0.637
Distance to health facilities				
Within 5 Kms	162	53 (32.5)	110 (67.5)	
5-10 Kms	21	14 (66.7)	7 (33.3)	
Above 10 Kms	15	9 (60)	6 (40)	0.002
Confidentiality				
High	190	71(37.4)	119 (62.6)	0.05
Low	9	5 (55.6)	4 (44.4)	

4.4 Perception of local herbal use during pregnant among respondent

There significance (P<0.001) difference between respondents who had positive perception towards herbs use and negative perception against herbs use during pregnancy. About 70% of the respondents who had positive perceptions toward herbs use during pregnancy were ready to recommend other women to use herbs. There was also significance (P<0.001) difference between respondents with negative and those with positive perception toward use of herbs during pregnancy; among mother with positive perception more than half (66.7%) use local herbal during pregnancy. 55.4% respondents didn't know the complications of herbs to pregnant women. There was also significance (P<0.001) between respondents with negative and positive perceptions; only four percent of respondents with negative perception were planning to take drugs in the future pregnancy.

Most of the respondents (49%) disagreed that herbal medicine are safe than modern medicine.

Table 16: Perception of use local herbal by pregnant women (n=253)

Perception item	Strongly agree %	Agree %	Neither agree or disagree %	Disagree %	Strongly disagree %
Herbal medicine are safe than modern medicine to use during pregnancy	7.5	6.7	15.4	49.8	20.6
Herbal drug are cheap compare to hospital drug.	14.6	10.3	9.5	45.8	19.8
Herbal drug help to safe delivery.	12.2	7.5	14.6	41.9	23.7
It is not acceptable for a woman with pregnancy to take herbal drug?	41.1	17	7.9	13.8	20.2
Herbal drug treat better diseases that are not properly treated in the hospital	7.9	17	15.4	35.2	24.5

In table 17 one way between group analysis was conducted to explore the effect of demographic characteristics on the perception score of the mothers on the use of local herbal. There were statistical significance ($P<0.001$) difference between age group, and herbal users and non users. However there was no statistical significant deference between, parity, marital status, occupations, and distance to the health facility

Table 17: Analysis of Variance to compare perception score, demographic characteristics and local herbs users and non users

Factors	N	Perception	F- value	P- value
Local herbal use				
User	76	11.8		
Non user	123	15.1	30	**0.0000**
Age group				
15-30	70	14.94		
31-45	183	12.2	15.07	**0.0000**
Parity				
1	64	15.25		
2-4	157	14.02	2.947	0.054
5 and above	32	13.28		
Level of education				
No formal Education	12	14.75		
Primary school	219	14.19		
Secondary and above	22	14.41	0.20	0.887
Marital status				
Not married	30	15.27		
Married	208	14.17		
Separated	15	13.07	1.515	0.22
Occupation				
Peasant	156	14.17		
Employed	9	14.00		
Small business	88	13.96	0.546	0.702
Distance to health facility				
Within 5 km	203	14.26		
5-10 km	29	14.41	0.162	0.850
Above 10 km	21	13.78		

Table18: show comparison of perception score between user and non user of local herbal which show statistical significant deference with P=0.0001 in all probed question with more negative perception against herbs use during pregnant.

Table 18: Comparison between user and non users in terms of their perception on herbal drugs use during pregnancy

Perception items	User of herbs		T test value	P- value
	User Means (SD)	Non user Means (SD)		
Herbal medicine are safer than Morden medicine to use during pregnant	3.21(1.215)	3.88 (0.988)	43.31	0.0000
Herbal drug are cheap compare to hospital drugs	2.80 (1.405)	3.72 (1.189)	34.076	0.0000
Herbal drug help to safe delivery	2.86 (1.33)	3.86 (1.140)	36.833	0.0000
Herbal drug treat better diseases that are not properly treated in the hospital	2.97 (1.34)	3.64 (1.209)	35.311	0.00000

CHAPTER FIVE

5.0 DISCUSSION

5.1 Prevalence of local herbal drug use among pregnant women

The prevalence of local herbal use among pregnant women observed in Rungwe District has been reported to be nearly one third. This implies that the use of local herbs among pregnant women in Rungwe district is a common practice. It has also been observed in other districts within Tanzania. Study by Mbura et al, (1985) revealed that the prevalence of local herb use was 42%. This was slightly higher than what was found in the current study. Two main reasons may suggest such differences. First, Tanga study was conducted 25 years ago where there was low level of knowledge on local herbs on pregnant if compared to current situation. Second, for the past 25 years, health system delivery in Tanzania had been improved significantly. This might have lead to increase in accessibility and quality, making women opt to use conventional health services rather than depending on local herbs.

Majority of women who used local herbs during pregnancy were earning on average less than other group categories. This is the lowest income per household per month compared to other categories of income in this study population. High use of local herbal among women with lowest income was expected. When house hold income becomes low, people tend to find other alternative for health care services which is affordable depending on their income. Poverty, not only excludes people from the benefit of health care but also restrict them from participating in decisions that affect their health. Due to lack of social security poor people become more vulnerable in terms of affordability and choice of health care provider (Nyamongo et al, 2002). Many poor, women and children in particular, die without ever accessing health facility (NSGRP, 2005)

Characteristics of women reporting the use of herbal drugs were similar to what has been reported in other studies. Most of them were older (Forster et al, 2006). Similarly, in this study, older women were found to use more local herbs compared to younger women. This may be due to comparisons of experience between conventional health

care professional and alternative health services delivery. This is in terms of reception and low cost of services provided. Local herb uses among pregnant women mostly depend on the past experience of the desired pregnancy outcome. If pregnant women report safe delivery after local herb use, they are likely to use local herbs on the subsequent pregnancy. The same explanations hold on our results of having significantly high herbs use among women with high parity compared to those with low parity. In our study out of 76 respondents who declared that they used herbs when they were pregnant, more than one third of the respondents reported to plan to take herbs in the future pregnancy. These are part of the local herbs users who benefited by the herbal drugs in their past pregnancy.

5.2 Reasons for use of local herbal during pregnancy

One of the major reasons sited by pregnant women for taking herbal drug during pregnancy was because herbal medicine will help them during delivery. This result is similar to a study done by Glover et al, (2003) where they mentioned labour facilitation as the main reason for taking herbal drug during pregnancy. Also, supported by Titilayo et al, (2009), where herbal drug was reported to be safe in pregnancy compare to conventional drugs. The above mentioned reasons are due to poor quality of heath services provided in health facilities. This also is consistence with Tanzania National Strategy of Growth and Poverty Reduction (NSGPR) report 2005 which mentioned, poor quality of care, shortage skill health care provider, poor governance accountability, long distance to health facilities, unaffordable transport systems weak exemptions and poor waiver system to sick who unable to access health care at fee as the main key obstacles to access health care services

5.3 Sources of information

In this study researcher found the most important sources of information about local herbs were from friends, similar to other study finding (Hepner et al, 2002; Forster et al, 2006; Lone et al, 2009). This brings some concerns that there are no reasons to believe that persons consulted are competent enough to give advice on herbal drug to pregnant women. We would expected this information to come from elderly relative like parents

or Traditional Birth attendants who in some extent they would have more experience on local herbal drug use in pregnancy compare to friends. Friends are regarded as persons with the same age and perhaps the same experiences about herbal drug use during pregnancy. In developed country like Norway it was found that main sources of information was from the herbal store and pharmacy where at least they have person who have evidenced based information about herbs (Hedivg et al, 2004).

Looking at the person that decides whether the mother should use local herbs or not, in this study majority of mothers decided for themselves to take local herbs. This was unexpected since in Africa community especial in the rural area like Rungwe, most of the time decision to choose type of health care services is decided by elderly relatives or husband. It may imply that currently there some improvement of empowering women to make their decision especially when it comes to decision they make concern their health. However self medication is dangerous because some times you may take drug unnecessarily. Which is contrary to other study where older generation like parents were most common persons suggesting using local herbal during pregnancy.

5.4 Sources of local herbal

In this study traditional birth attendant (TBA) were main sources of local herbal to the pregnant mothers as mentioned by more than half of the mothers This was expected because TBAs are still used by mothers for delivery assistance hence they may also prescribe herbal drug during pregnancy. This relies with study done by Msaky et al, (2004) in Hai district Tanzanai which reported that 60% of mother delivers outside the health facilities. Another study done by Bisika, (2009) which also reported that most of mother rely on the TBA despite their poor quality of services Decision to take drug in this study were made by pregnant mother themselves this is surprising especial in the rural area where we expected that women decision to take medicine during pregnancy would have come from husband or other elderly relatives. This relies with the result study done in Finnish by (Hemmik et al, 1988) which show that women used drug on their own initiative (78%).

5.5 **Perception of local herbs.**

When we compared mean score perception it was significantly found that non herbal user during pregnancy have negative perception on the use of local herbal during pregnancy. The results were expected since having negative perception against local herbs may help to protect mother from using local herbal. However still there some women with negative perception but they took herbal drug during pregnancy. They were also ready to recommend herbal drug to other pregnant women. The reasons for doing so may be due to the fact there some pregnant mothers who stay away from the health facility and they have no option than taking local herbal which is the only service accessible to them. This is contrary to study done by Hemminki et al, (1999) where possibly dangerous and dangerous alternative drug to pregnant mother were only mentioned to minority of pregnant women. This may be explained by the fact that the previous study was conducted in developed country where people have enough information about local herbals, regarding the safety and its effectiveness compare to our study area where people have little information about local herbal.

5.6 Factor associated with use of local herbal

Distance to the nearest health facility was significantly associated with use of local herbal. Among those who stay within 5 kilometres to health facility, only about one third were using local herbal during the pregnancy compared to mothers who stay five to ten kilometre and more than 10 kilometre from the health facility (66%) and (60%) respectively ($p<005$). Some study associate distance with use of formal health services example study done in Guinea by Glik et al, (1989). Other study Kaewsonthi et al, (1986) noted that not all patient use closest health facility. These had been observed in our study that there substation amount of women stay within 5 km to health facility but still they used local herbal during pregnancy.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

The use of local herbs during pregnancy is common practice in Rungwe. Most of the time women decide for themselves to take local herbs during pregnancy. TBA is the main source of local herbs to pregnancy women. Majority of women take local herbs during the third trimester of the pregnancy. Perceived danger of local herbs during pregnancy and presence of health facilities near the household had protected women from using local herbs.

6.2 RECOMMENDATION

From the study the following recommendation are made

- Research should be made to determine country wide prevalence of users of local herbs among pregnant
- Health and education sectors should start and maintain effort to educate and communicate with Rungwe district on the problem of use local herbs among pregnant women
- Since it is difficult to ascertain causal association between maternal complication and some of herbal drugs. We recommend longitudinal research design aim to determine causal inferences involving biochemical analysis and clinical implications.
- Health education on the danger of using local herbs during pregnancy should be propagated to mothers and general population especial women approaching reproductive ages so as to make the right decision.
- District and national level authorities and stake holders should insist on the construction of the health facilities near to the community so as to improve accessibility to conventional health services.

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