PREVALENCE AND BIRTH OUT COME OF MULTIPLE PREGNANCIES MANAGED AT WOLISO SAINT LUKAS CATHOLIC HOSPITAL, SOUTH WEST SHOA ETHIOPIA.

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JIMMA UNIVERSITYCOLLEGE OF PUBLIC HEALTH & MEDICAL SCIENCE POST GRADUATE SCHOOL DEPARTMENT OF INTEGRETED EMERGENCY OBSTETRICS /GYNECOLOGY AND GENERAL SURGERY.

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ABSTRACT

BACKGROUND: Multiple pregnancies (MP) are high risk pregnancy with number of associated foetal and neonatal complications.Obstetric complications associated with multiple pregnancy include: Increased incidence of Pregnancy Induced Hypertation (PIH),Antepartal Haemorrhage (APH),Preterm labour and assisted/surgical delivery. It has associated risk factors likeHistory of multiple pregnancy, advancedage,Ethnicity,multy parity and infertility treatment.

OBJECTIVE: To determine prevalence and birth outcome of multiple pregnancy at Woliso SAINT Lukas Catholic Hospital(WSLCH).

METHOD: Hospital based Crossectional Retrospective study in Woliso Saint Lukas Catholic Hospital from Jan.1st 2013 to Dec.31,2014. .Data was obtained through structured pretested check list by trained data collector under direct supervision by supervisor and principal investigator.

RESULT:The prevalence of Multiple pregnancies was 1.9% at Woliso in study period with 123(96.9%) twin and 4(3.1%) triple pregnancies.There were 49(38.6%) unfavorable neonatal birth outcome with no favorable triple births.

CONCLUSION: From this study; the pre valence and unfavorable neonatal birth outcome are as high as other study in Africa.

RECOMMENDATION : I strongly recommend that mothers with multiple pregnancies should give birth at Hospital with good neonatal intensive care unit;Due to increased number of prematurity.

Key words: multiple pregnancies, .

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ABBREVATION

ANC	**Ante Natal Care**
APH	**Antenatal Hemorrhage**
ART.	**Assisted reproduction technology**
DZ.	**Dizygotic**
GA.	**Gestation age**
ICU.	**Intensive Care Unit**
MBs	**Multiple Births**
MCH.	**Mother and Child Health**
MP	**Multiple pregnancies**
MZ	**Monozygotic**
NICU	**Neonatal Intensive Care Unit**
O/G	**Obstetrics and Gynecology**
PIH	**Pregnancy Induced Hypertension**
PPH	**Post Partum Hemorrhage**
PROM	**Premature Rupture of Membrane**
SVD	**Spontaneous Vagina Delivery**
SB	**Still Birth**
TTTS	**Twin to Twin Transfusion Syndrome**
WHO	**World health Organization**
WSLCH	**Woliso Saint Lukas Catholic Hospital**

CHAPTER ONE: INTRODUCTION

*1.*1Background *Information*

Multiple birth occurs when more than one fetus result from single pregnancy. It has different names depending on the number offspring's and the common ones are twin and triple respectively. They are either monozygotic or poly zygotic with monozygotic similar distribution through out the world.(1).

Multiple pregnancies are high risk pregnancy with number of maternal, fetal,and neonatal complications. It often requires Prenatal screening problems,aggressive neonatal intensive care unit which is costly and stressful for the family and infant. Infants born from MP are at increased risk for infant mortality and CNS pathology such ascerebral palsy and physical problems that can result from prematurity. It has also associated Obstetric complications like: prenatal screening problems increased incidence of APH ,PIH ,PPH preterm lab our ,and assisted/surgical delivery

Multiple pregnancy have many risk factors like history of MP,maternal age of >35,infertility treatment in case of dizygotic Mp.(2,3).

As study in St.PaulsHospital in Addis Ababa shows that the prevalence of MP is 2.5% with twin and triple ratio of similar (1:41) and prevalence of operative delivery 12.5%.(4).

In the human species,MB with the most common one twin birth is in which the mother gives birth to two or more offspring from the same pregnancy(5). The occurrence and frequency of MB varies across human populations. It is associated with a number of adverse maternal conditions during pregnancy, intrapartum, delivery and postpartum(6).neonate at a time; hence, MP is associated with an increased risk of preterm deliveries, per natal morbidity, and mortality(7).Regardless of the inherent changes in maternal physiology due to the MP , there are some maternal disease conditions that are more frequent in these gestations(8)Because of difference in anatomic and physiologic changes, many aspects of the obstetric management of the MP cannot be extrapolated from that of a singleton pregnancy(9).

1.2. Statement of the problem

MP especially twin pregnancy occurs one in 80 pregnancies triple occurs one in 6400 pregnancies(1,7).The prevalence of spontaneous twin pregnancies ranges from approximately

0.6 % of pregnancies in Asia and 1 to 2 % in Australia, Europe and the USA to about 4 % in Africa(8). Information in Ethiopia about MP is limited. The twin pregnancy rates ranges from

1.37% at Mekele referral hospital in Tigray to 2.43% at St. Paul's Hospital, Addis Ababa (5,11). In WSLH and Woliso zone in general there is no information on its magnitude.

MP is associated with increased risk of maternal and neonatal complications both in developed and developing countries(5). It continues to be a focus of interest the world over due to its increasing incidence and also the high maternal and per natal mortality and morbidity associated with it. This is probably worse in sub-Saharan Africa where there may be lack of facilities to manage MP and delivery and where poverty, ignorance, and harmful cultural beliefs and practices are still rife. Available evidence also indicates that MP are also associated with a number of financial, emotional, personal and social costs for their families and new born themselves(6).It including twin pregnancy accounts for at least 10% of per natal mortality. Low birth weight and prematurity are the main causes of high prenatal morbidity and mortality in MBs,whereasmalpresentation and the hazards of delivery are next in order of concern. For these reasons, MP is considered a high-risk pregnancy; different aspects of the risk include the mode of delivery, which remains a subject of a controversy and discussion among obstetricians(2).

Though there are some old studies on MP in Ethiopia, there is no base line study in,WSLH and the incidence and maternal and neonatal complications from these pregnancies are not known. These may have its own share in increased maternal mortality in the country. Therefore, this study is aimed to determine the prevalence, and maternal and fetal outcomes of all MP managed at obstetrics ward both delivery and maternity including neonatal intensive care unit of WSLH.

CHAPTER TWO: LITERATURE REVIEW

2.1. Overall situation of multiple pregnancy

MB in animal biology is a form in which the mother gives birth to two or more offspring from the same pregnancy. Giving birth to twins is a relatively rare event in humans, where occurrences vary considerably across populations.

Twin pregnancy occurs one in 80 pregnancies(1,7). The prevalence of spontaneous twin pregnancies ranges from approximately 0.6 % of pregnancies in Asia and 1 to 2 % in Australia, Europe and the USA to about 4 % in Africa(8). In some African countries national twinning rates is higher, with 17.7 twins per 1000 births in Egypt and27.9 twins per 1000 births in Benin (9). In sub-Saharan Africa, twining rate is still higher. For instance ,1.3% at Wad Medani Teaching Hospital, Wad Medani, Sudan (1985 to 1999) and one in 48 deliveries at Pumwani Maternity Hospital- Nairobi Kenya(2006) (33,34).Information in Ethiopia about twin pregnancy is limited. The rates in St. Paul's Hospital, Addis Ababa (1971 to 1985), Mekele referral hospital in Tigray (1993- 2003), and Gondar teaching and referral hospital (1977 and 1985) were 2.43%, 1.37% and 1.44% respectively(5,10,11). In south west Ethiopia the incidence was 13.5 per thousand deliveries (19). There is no figure in WSLH.
There are some factors that increase twin rate. For instance, in 2006, it was estimated that ART accounted for 1% of all births in the United States and 18% of all twins ,and it has been estimated that advanced maternal age accounts for 25%-30% of the rise in multiple birth rates since 1970 (8,9). A study on maternal and fetal outcome of twin deliveries in Jos, Nigeria, between August 2003 and November 2004 showed the mean age and parity of mothers were 28.96 and 3.20 respectively(12)

Twin fetuses are either dizygotic or monozygotic. After delivery gross the examination of the placenta(s) and a detailed description of its dividing membrane are critical for determining zygosity of the neonates. Slightly more than 30% of twins are monozygotic; nearly 70% are dizygotic(7,12). Retrospective study in University of Maiduguri Teaching Hospital, Maiduguri, Nigeria showed Dizygotic twinning rate 68.3% of the cases, while monozygotic twins occurred in 31.7%. Out of the twin deliveries, 70.4% and 29.6%) were unhooked(7,13)

Twin pregnancies, in comparison with singletons, are are associated with increased maternal complications during pregnancy, labor, delivery and postpartum (8). Ante partum complications noted in the study at University of Maiduguri Teaching Hospital, Nigeria, 2011, were preterm labor in 29.6%, pregnancy-induced hypertension in 5.4%, and ante partum hemorrhage in 3.8% (13). According to study conducted on 99 twin deliveries in Mekele referral hospital in Tigray (April 1, 1993-March 30, 2003) , the rates and major complications in twin pregnancies were: preterm lab our in 39.4% , PROM in 31.3% , APH in 11.1% , PPH in 9.1% , pre-eclampsia in 9.1% , malpresentation in 14.1% and maternal death in 3% (5).

Twin pregnancy also carries higher fetal and neonatal complications (8). The overall stillbirth rate in twin pregnancies is higher than in singleton pregnancies: in 2009 the stillbirth rate was 12.3 per 1,000 twin births, compared with 5 per 1,000 singleton births .Two studies on twin deliveries in Nigeria between August 2003 and November 2004, and 2007 and 2010 showed per natal mortality was 91 and 158.5/per 1000 deliveries. Prematurity was the chief cause of per natal death (65.4%) as of the second study (3,7, 13). Comprehensive per natal cares, greatly decrease morbidity and mortality rates . First twins have an approximately 3% greater chance of survival than do second twins(12)

A number of unique complications develop in twin pregnancies. They include conjoined twinning, twin-to- twin transfusion syndrome (TTTS), growth discordance, death of one or both fetus(es),congenitalmalformation,IUGR and monoamnionicplacenta ion. Each of these are associated with increased per natal mortality and morbidity (7,14,16,19) . Approximately 1 % of monozygotic twins are monoamnionic. Their associated high fetal death rate may result from cord entanglement, congenital anomaly, preterm birth, or twin-twin transfusion syndrome(7). Conjoined twins account for 0.5- 1% of monozygotic twins. In the United States, the incidence is 1 per 33,000-165,000 overall births and 1 per 200,000 live births(16,17). Twin-to- twin transfusion syndrome (TTTS) is a rare complication that develops in up to 15% of identical twin pregnancies when the babies share a common placenta(19). Growth discordance in utero is the difference in sonographic estimated fetal weights expressed

. The most common presentations at admission for delivery are cephalic-cephalic (42%), cephalic-breech (27%), cephalic- transverse (18%), breech-breech (5%), and others(8%). Importantly, these presentations, especially those other than cephalic–cephalic, are unstable before and during labour and delivery. Compound, face, brow, and footling breech presentations are relatively common, especially if foetuses are small, amniotic fluid is excessive, or maternal parity is high(7). Breech-vertex twin delivery is complicated by interlocking chins (i.e., locked twins) which occurs only once in 817 twin gestations(7). A study on maternal and foetal outcome of twin deliveries in Jos, Nigeria, between August 2003 and November 2004 showed cephalic-cephalic presentation accounts 48.0%. Male-male twin pair occurred in 33.3%, male-female twins in 22.7%, female-female in 24%, while female-male twins occurred in 20.0%. Males were first twin in 56.0% and second twin in 53.4%; while females were first twin in 44.0% and second twin in 46.6% of the cases(13).

Almost 80% to 90% of twins initiate spontaneous labour at less than 38 weeks' gestation. The median gestational age is 35 weeks. According to randomized trial done in Australia,2012,on women with an uncomplicated twin pregnancy, elective birth at 37 weeks of gestation was associated with a significant reduction in risk of serious adverse outcome for the infant (7,9). In 2009, of the137,217 twins that were delivered in the United States, approximately 59% were preterm and 10% were delivered at <32 weeks(8). The four year study of twin deliveries managed at the Niger Delta University Teaching Hospital Okolobiri, from January 1, 2007 to December 31, 2010 showed, the mean gestational age was 33.3 ± 2.6 weeks, and the mean foetal weight was 2.34 ± 0.54 kg.(3). The average birth weights for twins, according to a National Vital Statistics report from the United States in 2004 were 2,333g. Among twins, the proportion of low (<2500 g) and very low birth weight (<1500 g) infants was 57 and 10 percent, respectively(7).More than 40 years ago, Bennett and Dunn (1969) suggested that a twin pregnancy of 40 weeks or more should be considered post term(7).

Vaginal birth is permitted in MP whenever the first is in vertex presentation. According to the study conducted in china from 1 April 2006 to 31 March 2009, on 197 sets of twins, 35 (18%) were delivered vaginally and 162 (82%) by caesarean section (47% were emergencies and 53% elective). In all, 32 (37%) of the elective and 21 (28%) of the emergency caesarean

sections were in response to maternal requests. Study done in Paris, 2007, indicated that Caesarean and instrumental delivery rates were 50% and 12%.respectively (4,7). Although some second twins may require rapid delivery, others can be safely followed with foetal heart rate surveillance and remain undelivered for substantial periods of time. (14)

2.2 Significance of the study

From the above literature review, we have seen that the magnitude of MP pregnancy varies with geographical location and different factors. . But in Ethiopian context, there is only limited information; particularly at WSLH there is no even baseline study on the issue. Lack of this baseline information might contribute its share to high maternal and peri natal mortality in the country. Therefore this study will help us know the incidence, maternal, foetal and neonatal complications in our set up, which in turn create awareness about situation of twin pregnancy in the area for the health sector in the region and the country as the whole.

CONCEPTUAL *FRAM WORK*

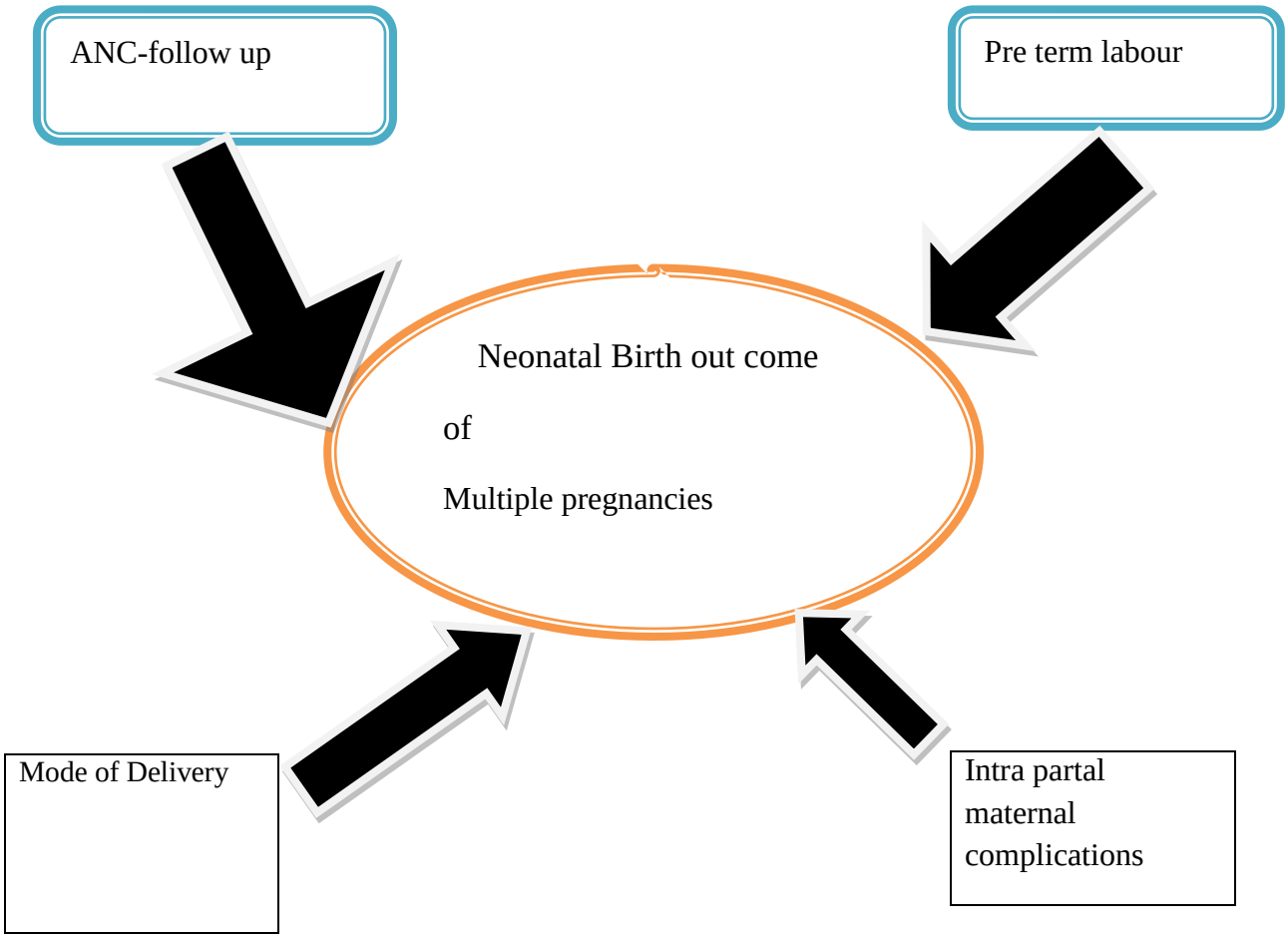

Figure 1 of Conceptual frame of work

CHAPTER 3 OBJECTIVES

3.1 **General *objective;***

- To determine the prevalence and birth out come of MP in WSLH from Jan.1,/2013 to Dec.31,2014 G.C.

3.2 **Specific *objectives;***

- To determine the prevalence of MP in study area and period,
- To assess the associated factors of birth outcome of MP in the same area and period.
- To assesses birth out come of different type of MP in this area and period.

CHAPTER 4 METHOD

4.1 Study Area and Period

The study was conducted at WSLCH which is found in Woliso town in southwest shoa zone of oromia region, Ethiopia, which is serving over 1.2 million peoples of woliso. It is located to the 114 km southwest of Addis Ababa .The hospital provides almost all major type of services: it has total 200 beds of which 24 are found in the maternity ward ; 14 are the gynaecology ward. The first and second stage rooms of labour ward has five and three beds respectively ;the neonatal unit contains six beds. The labour ward, maternity ward and Gyn .ward are run by Twelve midwives, One clinical nurses, one HO, One tropical doctors ,five IEOS students and One surgical officer The hospital serves as a referral hospital for the nearby health centres' and hospital ,most of the labouring mothers come from rural areas.

The Study was conducted from Jan.1st ,2013 to Dec.31st ,2014.

4.2 Study Design

A Hospital based retrospective cross sectional study was employed.

4.3 Population

4.3.1Source population; All mothers in reproductive age groups who gave birth at WSLCH.
4.3.2 Study population: All records of Mothers with multiple birth in WSLH in study period those fulfilled the inclusion criteria.

4.4Sample size determination*:*

There was small sample size no need of sampling, all clients who have given birth to multiple baby or retained 2nd or 3rd in WSLH in study period fulfiled inclusion criteria were included in study.

4.5 Inclusion and *exclusion criteria*

4.5.1 **Inclusion** criteria; All MBs including retained 2nd /3rd with GA of >28 weeks at WSLH in study period and has records and patient cards.

4.5.2 Exclusion criteria;

All MBs in out side WSLH and in the hospital during study period but no records and cards.

All MBs terminated at gestational age <28 weeks

4.6 Study variables

4.6.1 Independent variables

Age

Parity

Residency

Parity

ANC follow up

GA

BWT

APGARS

NICU

PRECLAMPSIA

PPH

Anaemia

4.6.2 Dependant variables

Birth outcome

4.7 Operational *definition and definition of terms*

Parity: Number of delivery experiences. A woman whose first delivery or viable pregnancy was multiples was considered primparous

Favorable birth outcome;those who have no SB,no Congenital mal formation no early ND and no neonatal complication.

Unfavorable birth outcome ;the opposite of those mentioned above.

Retained 2^{nd} /3^{rd} twin/triple: A Woman with MP give 1^{st} baby outside the Hospital.

Conjoined twin: Is twin with shared body part.

Low birth weight: Is new born baby weight less than 2500gram at time of delivery for 1 or all MBs.

Good APGAR score: Is new born APGAR score of greater than/equals to 7 at 1^{st} /5^{th} min. For all MBs.

4.8 Data collection process

4.8.1Data collection instruments and data collectors

The instruments was developed by reviewing different literature. Self structured questionnaire or check list was used for the data collection. The questionnaire was formally prepared in English and not translated in to local languages (Afan Oromo and Amharic).becausethe data Was written in English .Questionnairel have four parts; the first part includes sociodemographic factors; the second part consists of risk factors; the third part consists of obstetrics assessment with three subsections including ante partum, intrapartum and maternal conditions after delivery; and fourth part consists of neonatal outcomes.

Two midwifes one HO and one Bsc nurses was trained for 5 days for data collection .Maternal and neonatal data obtained from delivery log books and maternity admission registration book and neonatal admission and discharge registration books.. After the data is collected, it was revised by the investigator for completeness

4.8.2Data Quality contro

Before data collection:The questionnaire/Check list was pre-tested on few cases by well trained data collecrors before the actual data collection. The principal investigator was checked for the completeness and consistency of the questionnaire after each document information. The data collection process was closely monitored by the principal investigator.The principal investigator wasl checked every questionnaire meticulously so that all incomplete forms were identified before the mothers data return to card room.

After data collection:The data was coded, edited and cleaned to ensure accuracy, consistency and completeness of data.

4.10 Data processing and analysis

Data entered using SPSS version 20.0 for analysis. Frequency distributions of both dependent and independent variables was worked out and the association between independent and dependent variables measured and tested using binary logistic regression. Analysiswas conducted using percentages, crude and adjusted odds ratios with their 95% C.I.All Variables with p-value <0.25 will be entered into logistic regression and all variables with p-value <0.05 was declared predictors of birth out come of MP . and was considered statistical significance association on logistic regression model.

4.11 Ethical considerations

Ethical approval will be obtained from Ethical review board of Jimma University, College of Public Health & Medical Science. The procedure and purposes of the study will be explained to the hospital manager and to the hospital medical director. WSLH will give permission to conduct the study. The patient's name will not be included in the Check list, after finishing the data collection the patients' document return to card room, the information will be used for study purpose only.

4.12 Dissemination plan

Findings will be presented to master's thesis defence of Jimma University, Faculty of Public Health & Medical Science, and school of Graduate Study. The results will be submitted to the coordinator of IEOS, Regional Health Bureau, Zonal Health Offices, NGOs working on this area and WSLH to use as input to improve quality of care for MP

CHAPTER FIVE RESULT

5.1 Prevalence of Multiple pregnancies

From this 2-years retrospective cross-sectional Hospital based study at WSLCH, there were total of 6598 total delivery cases. There were 127 MP cases so the prevalence of multiple pregnancies was 1.9 %(127/6598) in WSLCH from Jan.1^{s,t} 2013 to Dec.31,2014. It also showed that 123 (96.9%) of all MP were twin while triple pregnancies was only 4 (3.1%).

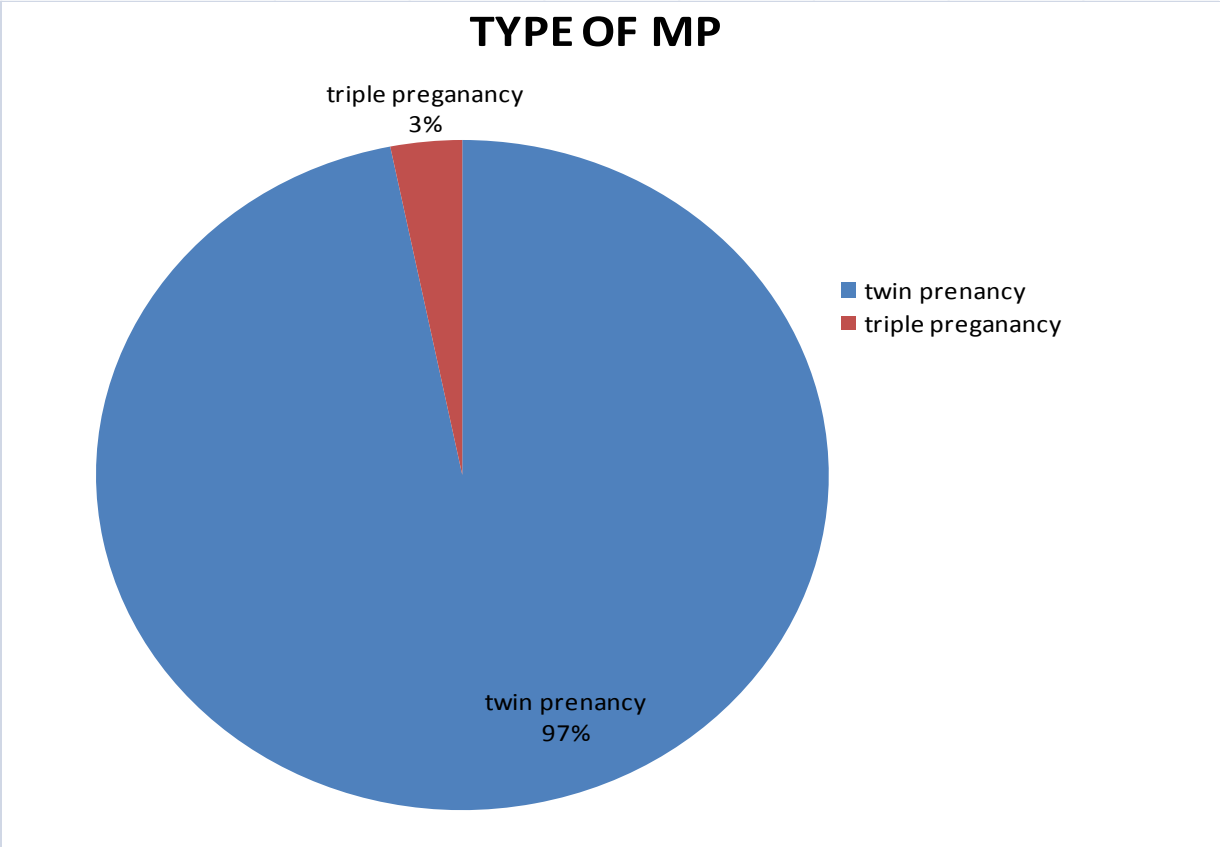

Figure:2 DestributionoftypesofMPinWolisoSLCHfromJan.1st.2013toDec.31st,2014.

5.2 Socio-demographic variables affect birth outcome of MP in study area and period

The mean age of mother was 21.67 years with SD of 0.749, minimum 17 and maximum 35 years. Majority of participants in this study were rural area and majority of cases are prim Para and multi para.

Table: 1 Distribution of cases of multiple pregnancies with socio-demographic variables and parity in WSLCH from Jan.1st 2013 to Dec.31,2014.

Variables	Category	Frequency	Percent
age	< 20 years	6	4.7
	20-30 years	72	56.7
	30-35 years	40	31.5
	>35 years	9	7.1
Residency	rural	101	79.5
	urban	26	20.5
Parity	Prim Para	63	49.6
	Multi Para	43	33.9
	Grand multi Para	21	16.5

5.3 cases of multiple pregnancies and obstetric characters in WSLCH in study period.

Mode of delivery in this study was SVD 88 (69.3 %)followed by 39(30.7%) C\S and presence of preterm labour27 (21.3%), both has no significant association with birth outcome of MP. There was no C/S for triple births in this study area.

The most common intrapartal complication was labour abnormality 14.2% followed by preeclampsia 12.6% and PROM 5.5% in this study but all has no significant association. The common post partum complications from this study were operative delivery related 18.1%, anemia 7.1 %and PPH 3.1%.

Table:2 Distribution of obstetric characters of cases of MP in WSLCH from Jan.1st ,2013 to Dec.31,2014.

Variables	category	Frequency	Percent
Presence of preterm labor	Yes	27	21.3
	no	100	78.7
Mode of delivery	SVD	88	69.3
	C|S	39	30.7
ANC follow up	Yes	94	74
	No	33	26
GA	Preterm	84	66.1
	Term	43	33.9
PROM	Yes	10	7.1
	No	117	92.9
Apgar score	<7 for 1 or all	71	55.9
	>7 for all	56	44.1

5.4 Neonatal birth outcome of MP in study area and period

There were 49 cases (38.6%) had bad birth out come from this study with the remaining seventy eight cases(61.4%) had good birth outcome of multiple pregnancies. There was no good birth out come from triple births

The birth out come in this study strongly associated with the neonatal complication, LWT, Low APGARS,and Maternal age b\n 20 and 30 years.

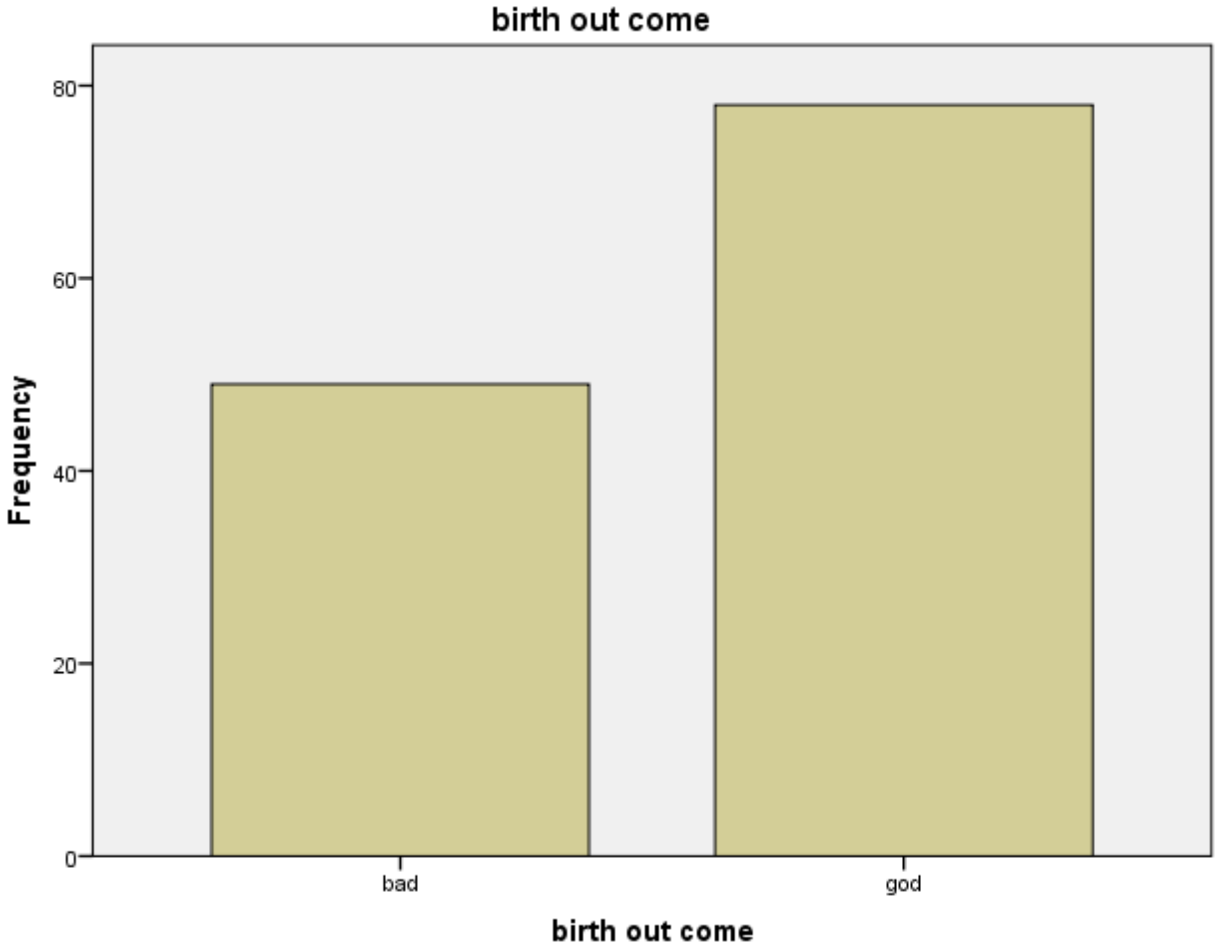

Figure 3 To show neonatal birth outcome of MP at WSLCH from Jan.1st,2013 to Dec.31,2014.

5.5 Common MP related complications in study area and period

The most common neonatal complication was prematurity and related early neonatal death.

The common intra-partial complications are mal-presentation and prolonged labour related operative delivery followed by preeclampsia and PROM.

The common post-partum complications were wound site infection .anaemia and PPH.

Table3: to describe complications related to MP in WSLCH from Jan.1st.2013 to Dec.31st, 2014.

Variables	Category	Frequency	Percent
Neonatal complications	Preterm prematurity	28	22
	Early neonatal death	11	8.7
Maternal complications	Preeclampsia	16	12.6
	PROM	10	7.9
	Anemia	9	7.1
	Wound infection	23	18.1
	PPH	4	3.1

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5.6 Predictors of birth outcome of Mp at WSLCH from Jan.1st, 2013 to Dec.31, 2014. From bivariate and multivariate Logistic regression analysis
The presence of neonatal complication increases the likely hood of bad birth outcome with p-value of 0.000,COR 41.455,AOR 0.005(95% CI;0.001-0.035).

Low APGARS increases the likely hood of bad birth outcome with p-value 0.006,COR 0.420,AOR;8.573 (95% CI;1.863-39.454).

Low birth weight increases the likely hood of bad birth outcome by with p-value of 0.000, COR of 10.312, AOR 0.057 with 95% CI (0.013-0.255).

The maternal age b\n 20 and 30 also increases the likely hood of bad birth outcome with p-value of 0.024;COR 0.215,AOR 0.05 with 95% CI(0.004-0.677).

Other independent variables not show significant association with neonatal birth outcome from this study. Like parity p-value of 0.353, residency p-value 0.989,.preterm labor p-value 0.381,GA p-value 0.875,etc.

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Table:4 Bivariate and Multivariate Analysis of factors affecting Birth outcome of MP at WSLCH from Jan.1st,2013 to Dec.31,2014.

Variables	COR	AOR	P-value	95%C.I for AOR	
				Lower	Upper
Neonatal complication	41.455	0.005	0.000	0.001	0.035
APGARS <7 for 1or all MBs	0.420	8.573	0.006	1.863	39.454
Birth weight <2500grams for 1 or all of MBs	1o.312	0.057	0.000	0.013	0.255
Maternal age b\n 20 and 30	0.215	0.050	0.024	0.004	0.677

CHAPTER SIX DISCUSSION

The prevalence of multiple pregnancies was 1.9 %(127/6598) in WSLCH from Jan.1^{s,t} 2013 to Dec.31,2014. It also showed that highest twin 123 (96.9%) followed by triple pregnancies which was only 4 (3.1%).

There were 49 cases (38.6%) had bad birth out come from this study with the remaining seventy eight cases(61.4%) had good birth outcome of multiple pregnancies. The birth out come in this study strongly associated with the neonatal complication, Low BWT, Low APGRS,and Maternal age b\n 20 and 30 years.

The prevalence in this study is approximately 2% and nearly similar to the study on St.Paulos referral Hospital in capital city of Ethiopia with prevalence of 2.5%(4).There were almost no information concerning history of MP,type of chorionicity,and lung maturity test for preterm cases. there was no maternal death from this study. these were may be due to poor recording behaviour.

There were no operative delivery and no good birth outcome from triple pregnancies on this study due to prematurity which is almost similar as study on MP(19).

On this study associated socio-demographic factor is maternal age b\n 20 and 30 years which is not supported with study in different Country where advanced maternal age affects prevalence and birth outcome of MP..This is may be due to false mentioning tradition of females age and retrospective study design effect.(2,3).

The significantly associated Obstetric factors are low birth weight, low APGRS, neonatal complications..This is similar finding with many studies on MP(3,5).

4.13. Limitation of the study

The study was hospital based retrospective study with a relatively small sample size; it is necessary to note that there were Methodological limitations as a result sampling and information bias may have occurred and the study was limited more rare outcomes. There were many multiple birth mothers cards with incomplete data excluded from the study. Even though majority of women in Ethiopia prefer to give birth in home there could probably be MBs women who had given birth at home during the study period, thus not included in the study. there was also suspected false mentioning of maternal age in this study area and separated single patient card as in patient and out patient card storage system was a major challenge in WSLCH.

CHAPTER VII CONCLUSION AND RECCOMMENDATION

7.1 CONCLUSION: **The prevalence of MP in study is 1.9% with 123(96.9%) twins and 4(3.1%) triple.**

There was no maternal death from 127 cases of MP.

There was no operative delivery with no good birth outcome for triple births.

The associated factors from this study are low birth weight, low APGRS,neonatal complication and maternal age.

7.2 RECOMMENDATION:

Delivery of all MP at Hospital with better NICU.

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ANNEX

*I.*CHECK *LIST*

This checklist is prepared for the collection of socio-demographic, obstetric variables related to information that are important for the assessment of prevalence, and birth outcome of MP in WSLCH from Jan.!st 2013 to Dec.2014. . All this information were retrieved from delivery registration book, operation room log book as well from individual patient card without mentioning the name of the clients.

. Contact information- Terefech Abaye

Advisors ; Dr Wubishet

Mr Abiot

Data collector name and signature _____

Instruction: Please Write the correct ancer on separet paper provided.

Socio-demographic variables

1.What was the mother!s card number?

2.Where was her residency?

3.In which age group was her age/?

II.Obstetric variables

1.What was the mothers parity?

2. What type multiple pregnancies was it?

3.What mode of delivery was it?

4.What was the indication for operetive delivery?

5.What were the fetal presentation?

6.Had the mother ANC follow up?

7.What was the GA by different Methods?

8.What was the APGRS in1st and 5th min.respectively

9.What was the BWT of new borns?

10. What was the new borns sex

11.Had the neonates need NICU?

12.What was the indication for NICU?

13.Was there any SB?

14.Was there any CM?

15.what type of CM was it?

16.What chorionicity was identified?

17.Was there PROM ?

18.Was there preterm labor?

19.Was there any lung maturity test?

20.What intrapartem complication was raised?

21.What were the post partem complication happened?

22.Had the mother transfused?

23.Was there maternal death?

24.What caused maternal death ?

25.Was there neonatal death?

26.What caused neonatal death?

27.What was birth outcome of the mother?

ASSURANCE OF **PRINCIPAL** *INVESTIGATOR*

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of the facility of public health in effect at the time of guaranty is forwarded as the result of this application.

Name of student:TEREFECH ABAYE

Date. August 31 2015 Signature

APPROVAL OF FIRST ADVISOR

Name of first advisor

Date Signature

Name of second advisor

Date Signature