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LIMPOPO PROVINCE  
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# **RISK FACTORS AND COMPLICATIONS ASSOCIATED WITH MATERNAL TUBERCULOSIS**

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# Tuberculosis and Pregnancy

Amid the many health issues that arise during pregnancy, infectious disease is usually not at the forefront. Yet one of the most deadly infectious diseases, tuberculosis, is sneaking its way into the obstetric population. >>



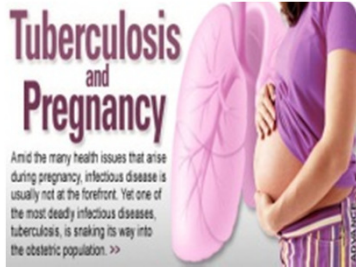
## CONTENT OVERVIEW

- BACKGROUND OF THE STUDY
- PROBLEM STATEMENT
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- RECOMENDATIONS
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## INTRODUCTION AND BACKGROUND

- TB a burden disease affecting and killing both male and females (Arora and Gupta 2003; Connolly and Nunn 2013; Bekker 2015).
- Focus on women of child bearing age 15-44 years, 2.9 million new cases of TB women and 530 000 children.
- Third cause of morbidity and mortality, 410 000 and 74 000 women and children deaths respectively in 2012 (Connolly and Nunn 2013; Bekker 2015).
- Majority in resource-limited countries or high burden areas
- The majority of people infected with TB are in Asia and Africa where TB is endemic (WHO 2013).



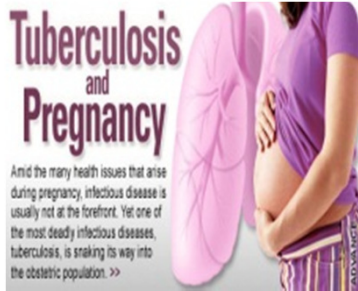
## INTRODUCTION AND BACKGROUND CONT...

- Risk factors associated with maternal TB: (HIV infection, poverty, delay in screening and poor treatment adherence) (Blinkoff 2009; WHO 2010, 2013; Connolly and Nunn 2013; Bekker 2015).
- TB complications reported in Bangladesh (pre-eclampsia, congenital TB, eclampsia, abortion and premature)
- Untreated pregnant mothers with TB: overall mortality 38% versus 22% from treated mothers (Liefoghe, 2012).
- In SA, 40% infected with TB in KZN, TB meningitis to new-born babies (DoH, 2008; Crowley and Woolgar 2015).
- In LP, delay in screening in deep rural areas is due to poverty.



# PROBLEM STATEMENT

- HIV/AIDS in pregnant women is the main risk factor of TB infection due to immuno-suppression.
- Initiation of PMTCT programme since 2001 showed shortfalls in implementation of PMCT in district hospitals in LP.
- Delay in screening, diagnosis and commencement of anti-TB treatment and untreated TB leads to maternal and neonatal TB complications.
- Literature search regarding risk factors and complications associated with maternal TB not reveal much evidence.
- Particular attention not given to pregnant mothers diagnosed with TB disease as there is no enough document/reports which is presented nationally and provincially.



## PURPOSE OF THE STUDY

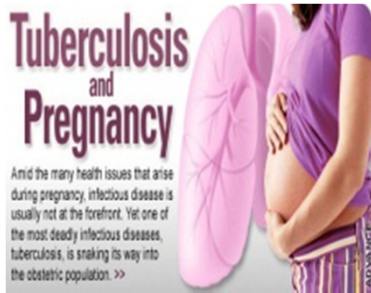
- The purpose of the study was to describe the risk factors and complications associated with maternal TB.



# OBJECTIVES OF THE STUDY

- To identify maternal and neonatal complications
- To describe the risk factors and complications





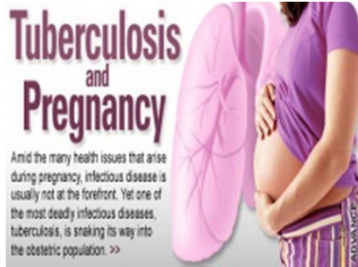
## METHODOLOGY

- Quantitative and descriptive research.
- Checklist with closed-ended used.
- Non-probability, purposive sampling approach for ten hospitals and 150 medical maternity case records for discharged mothers diagnosed of TB
- Pretesting: 15 records from three hospitals used and did not form part of the major study.
- Reliability and validity maintained
- Data analysed by the Statistical Packages of social sciences (SPSS) version<sub>22</sub>



# RESULTS OF THE STUDY

Demographic factors		
<b>1. Marital status</b>	Frequency	Percent
Single	125	83.3
Married	24	16.0
Divorced	1	0.7
Total	150	100.0
<b>2. Parity</b>	Frequency	Percent
0-2	76	50.6
3-4	39	26.0
≥5	35	23.3
Total	150	100.0
<b>3. Age group</b>	Frequency	Percent
15-20	10	6.7
21-30	44	29.3
31-40	53	35.3
41 and above	43	28.7
Total	150	100.0
<b>4. Employment history</b>	Frequency	Percent
Unemployed	146	97.3
Self employed	3	2.0
Permanently employed	1	0.7
Total	150	100.0



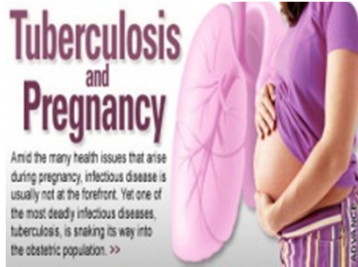
# RESULTS CONTINUED

Risk factors associated with TB		
<b>5. First presentation at ANC</b>	Frequency	Percent
First three months	11	7.3
Second three months	41	27.3
Third three months	88	58.7
Unbooked cases	10	6.7
<b>Total</b>	150	100.0
<b>6. Transport difficulties/problem</b>	14	9.3
Transport not available	22	14.7
No money for transport	66	44.0
Use cart	14	9.3
None	34	22.7
<b>Total</b>	150	100.0
<b>7. Screening for TB done during first visit</b>	Frequency	Percent
Yes	11	7.3
No	139	92.7
<b>Total</b>	150	100.0
<b>8. Period during which chest x-ray was done</b>	Frequency	Percent
First three months	2	1.3
Second three months	2	1.3
Third three months	2	1.3
After delivery of the baby	111	74.1
Missing	33	22.0
<b>Total</b>	150	100.00



# RESULTS CONTINUED

9. Period during which sputum smear was done	Frequency	Percent
First visit	10	6.7
Repeated at 32-36 weeks	6	4.0
After delivery of the baby	114	76.0
Missing	20	13.3
<b>Total</b>	<b>150</b>	<b>100.0</b>
10. Period of commencement of anti-TB treatment	Frequency	Percent
First three months	1	0.7
Second three months	11	7.3
Third three months	10	6.7
After delivery of the baby	128	85.3
<b>Total</b>	<b>150</b>	<b>100.0</b>
11. Previously treated for TB	Frequency	Percent
Yes	43	28.7
No	107	71.3
<b>Total</b>	<b>150</b>	<b>100.0</b>
12. History of chronic illness to the mother	Frequency	Percent
Diabetes mellitus	9	6.0
Hypertension	19	12.6
Cancer	1	0.7
HIV/AIDS	78	52.0
Asthma	1	0.7
None	59	28.0
<b>Total</b>	<b>150</b>	<b>100.0</b>



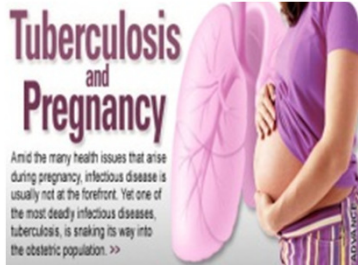
# RESULTS CONTINUED

13. History of chronic cough lasting more than two weeks	Frequency	Percent
Yes	139	92.6
No	10	6.7
Missing	1	0.7
Total	150	100.0
14. History of smoking or alcohol intake	Frequency	Percent
Smoke only	22	22.7
Alcohol only	34	14.7
Both	35	23.3
None	59	39.3
Total	150	100.0
15. History of weight loss/malnutrition to mother	Frequency	Percent
Yes	127	84.7
No	23	15.3
Total	150	100.0



# RESULTS CONTINUED

Medical maternal and neonatal complications		
<b>16. Birth weight of the baby</b>	Frequency	Percent
Less than 1999g	41	27.3
2000g-2499g	36	24.0
≥ 2500g	70	46.7
Not recorded	3	2.0
<b>Total</b>	150	100.0
<b>17. Complications for the mother</b>	Frequency	Percent
Pre-eclampsia	5	3.3
Premature rupture of membranes	22	14.7
Abortion	5	3.3
Placenta abruption	4	2.7
Placenta praevia	3	2.0
MDR/XMDR	20	13.3
Other, specify, TB relapse	39	26.0
None	52	34.7
<b>Total</b>	150	100.0
<b>18. Complications for the baby</b>	Frequency	Percent
Anaemia	3	2.0
Low birth weight	41	27.3
Small for gestational age	36	24.0
Treated for TB	5	3.3
Persistent respiratory infections	15	10.0
Neonatal death	9	6.0
Other, specify	2	1.3
None	39	26.0
<b>Total</b>	150	100.0



# DISCUSSION

## Risk factors identified are as follows:

High maternal morbidity in SA contributed by many factors, but HIV is a significant risk factor. These identified risk factors significantly expose pregnant mothers and neonates to be at high risk of TB

- Unemployment (97.3%)
- Malnutrition (84.7%)
- Late presentation at ANC (86.0%)
- Delay in TB screening during pregnancy (92.7%)
- Started anti-TB drugs after delivery (85.3%)
- HIV/AIDS (52.3%)

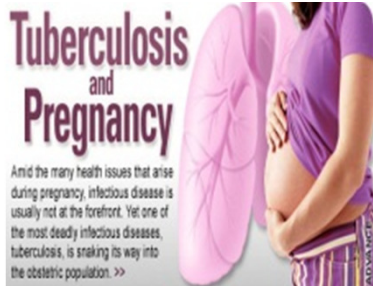


# DISCUSSION CONTINUED

## Risk factors identified continued:

- Chronic cough (92.6)
- Sputum smear done after delivery (68.0%)
- Chest x-ray done after delivery (74.1%)
- No money for transport ( 44.0)
- Less significant factors: other chronic conditions e.g. asthma, abuse of alcohol and smoking, but they are of concern





# DISCUSSION CONTINUED

## Maternal complications (53.3%):

An 20% on maternal morbidity during the 2005-2007 reported (Loto & Awowole 2012). Maternal TB can cause significant maternal morbidity. complications (53.3%) has developed as presented below. Similarly, DoH (2010); Turnbull et al. (2012;) Grounder et al. (2012) and Snyman et al. (2015) reported high rate of abortion, post-partum haemorrhage and pre-eclampsia due to maternal TB.



## POSTPARTUM HAEMORRHAGE

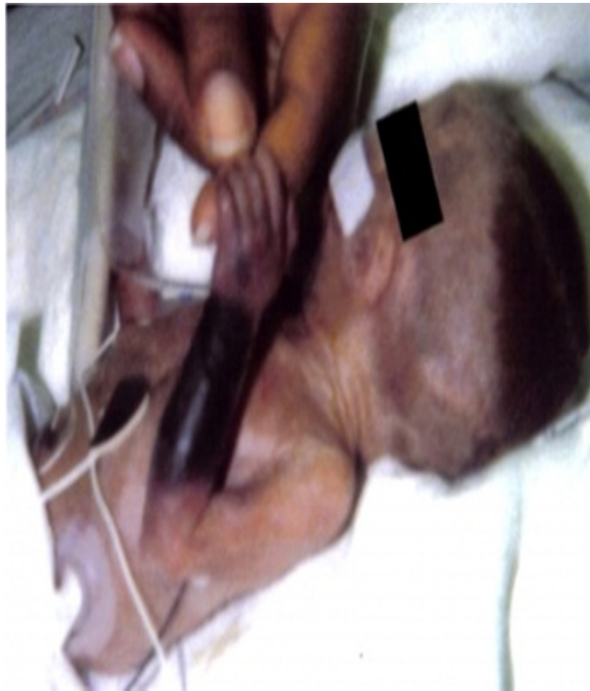
- Pre-eclampsia (3.3%)
- PROM (5.7%)
- Abortion (7.3%)
- PPH (7.7%)
- Placenta praevia (2.0%)
- MDR/XMDR (13.3%)
- TB relapse (14.0 %)



# DISCUSSION CONTINUED

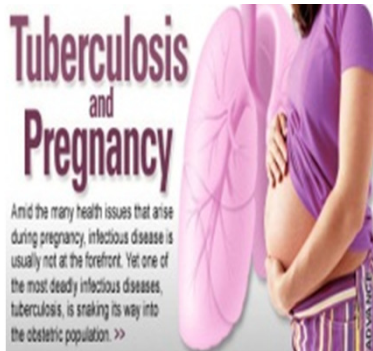
## Neonatal complications (67.9):

Untreated TB during pregnancy increases risk to the unborn baby. The baby may be born with a lower birth weight than those born to mothers without TB or treated early for TB. The following neonatal complications were identified from medical maternity case record:



Prematurity, Low birth weight

- Anaemia (2.0%)
- Low birth weight (27.3%)
- Small for GA (24.0%)
- Respiratory distress (10.0%)
- Treated for TB (4.6%)



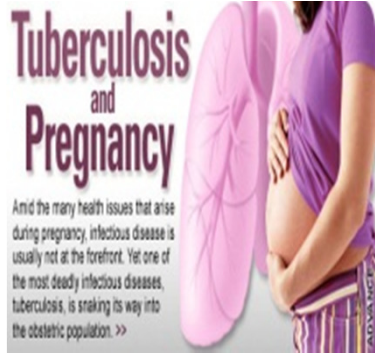
## RECOMMENDATIONS

- Establishment of guidelines related to prevention of complications of maternal TB.
- Planning workshop and symposium for maternity staff on protocols on the management of TB.
- New research studies to be initiated to identify various techniques which need to be sought and implemented to improve treatment adherence for pregnant and breastfeeding mothers.



## CONCLUSSION

- Untreated, late screening, diagnosis of maternal TB and late commencement of anti- TB treatments are associated with maternal and neonatal complications. Several risk factors associated with maternal TB were identified. HIV is the major significant risk factor contributing to progression from TB infection to TB disease.
- Emphasise intergration of BANC, TB/HIV and PMTCT programmes to achieve and sustain MDG 4, 5 and 6.



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**THE END**

***NDO LIVHUWA***

***INKOMU***

***KE A LBOGA***

***THANK YOU FOR YOUR ATTENTION!***



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