

Supplemental Table 2. Summary of Pregnancy Outcomes and Other Relevant Findings

| Design | First Author (Year), Reference | Setting | Sample | PTB, EPTB, congenital | HIV Co-infection | Maternal outcomes | Fetal/Newborn outcomes | Other relevant findings |
|-------------|--------------------------------|--------------|---|--------------------------|------------------|---|---|--|
| Case Report | Adhikari (2014) ⁷² | US | 1 (30 yo) | DR EPTB (gonorrhoeal) | no | cured of TB | induction of labor due to severe pre-eclampsia at term | postpartum complicated by pyelonephritis, fibrosis and chronic inflammation of ureteral segments |
| Case Report | Ahuja (2014) ⁷³ | India | 1 (27 yo) | PTB | no | discharged home to continue ATT | fetal demise | delayed TB diagnosis; status post ventilator with resolved pulmonary embolism; resolved anaemia |
| Case Report | Alaoui (2012) ⁵⁴ | Morocco | 1 (37 yo 23 weeks gestation) | EPTB (peritoneal) | no | cured of TB | normal birth weight, delivered at term; vaginal delivery 37 weeks | NA |
| Case Report | Barbosa (2019) ⁵⁶ | Brazil | 1 (22 yo 22 weeks gestation) | PTB, EPTB (disseminated) | no | death | induced abortion due to suspicion of chorioamnionitis | NA |
| Case Report | Brouwer (2014) ⁴⁴ | Belgium | 1 (33 yo 4 weeks gestation) | EPTB (left breast) | no | completion of TB treatment | delivered at term | misdiagnosis of TB and delayed treatment x13 weeks from presentation |
| Case Report | Chang (2017) ⁷² | Taiwan | 1 (14 day old infant, delivered at 35 weeks) | congenital | no | not discussed | LBW; completed TB treatment, gradual resolution of military TB | NA |
| Case Report | Erenel (2021) ⁶⁹ | Turkey | 1 (24 yo 15 weeks gestation) | EPTB (intraperitoneal) | no | Completed treatment | delivered at term, normal weight, negative for TB, BCG vaccine given; INH prophylaxis given 60 months | NA |
| Case Report | Fois (2017) ³⁸ | Italy | 1 (28 yo 36 weeks gestation) | PTB | no | cured of TB | preterm cesarean delivery at 36 weeks, outcome unknown | NA |
| Case Report | Inal (2015) ⁷¹ | Turkey | 1 (34 yo, twins at 27 and 30 weeks gestation) | EPTB (genital) | no | cured of TB | preterm cesarian delivery for both twins at 30 week gestation; LBW | NA |
| Case Report | Islam (2017) ³⁹ | Saudi Arabia | 1 (23 yo 23 weeks gestation) | EPTB (abdominal) | no | cured of TB | spontaneous abortion | dilatation and curettage caused uterine perforation and sepsis; resolved sepsis, bilateral pleural effusion; TB treatment was interrupted during transfer of care due to miscommunication |
| Case Report | Jacquemyn (2012) ⁵⁵ | Belgium | 1 (28 yo 13 weeks gestation) | PTB, EPTB (disseminated) | no | cured of TB | spontaneous abortion | acid-fast bacilli on examination of placenta, but not fetus |
| Case Report | John (2018) ⁶⁶ | US | 1 (37 yo 19 weeks gestation) | PTB | no | recovered fully | healthy infant at birth, treated with isoniazid prophylaxis, negative T-spot test at age 3-month and isoniazid was discontinued | mother had delayed diagnosis of TB; cough, fever, night sweats, 10-lb weight loss in the last 3 months - T-spot test + (30mm induration) and referred to pulmonologist - placed on azithromycin for presumptive PNA; admitted to inpatient TB treatment when 2-yr daughter was screened + for TB |
| Case Report | Kaushal (2015) ³⁴ | India | 1 (27 yo 35 weeks gestation) | EPTB (spinal) | no | continued TB treatment after discharge; doing well at 3 month post-discharge | fetal distress, emergency cesarian section at 37 weeks; ATT prophylaxis x3 months; no congenital TB at 3 month post-discharge | improvement in motor power over weeks |
| Case Report | Klimko (2020) ⁴⁹ | Romania | 1 (27 days old infant delivered at 33 weeks) | congenital | no | mom diagnosed with latent TB and isolated from infant; TB treatment outcome not discussed | improved TB; premature birth, LBW (2100g) | presents with hepatopneumology, respiratory distress, hypotonic, irritable; misdiagnosis of late-onset culture-negative neonatal sepsis - patient's condition worsened prompting TB screening of mother; paracentesis performed + for TB and started on treatment |

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| Case Report | Lababi (2014) ⁶⁷ | Morocco | 1 (31 yo 22 weeks gestation) | EPTB (peritoneal) | no | cured of TB | delivered at term, normal weight, no TB | NA |
| Case Report | Laniado-Laborin (2017) ⁶⁸ | Mexico | 1 (15 yo 8 weeks gestation) | DR PTB | no | cured of TB; normal vaginal delivery | NA | fetal exposure to levofloxacin and ethionamide; provider offered induced abortion |
| Case Report | Lee (2015) ⁶⁴ | South Korea | 1 (18 days old infant) | congenital | no | No symptoms at 8-month follow up | improvement of lung infiltration and no symptoms after 8 months | delayed diagnosis of TB in mother; baby's initial presentation of respiratory distress and fever, initial misdiagnosis of PNA, then started on TB treatment on day #2 of hospitalization |
| Case Report | Lin (2018) ⁷¹ | China | 1 (31 yo, gestation age unknown) | PTB | no | cured of TB | spontaneous vaginal delivery; TB outcome on neonate not provided | 1 month delay of TB diagnosis after presenting with symptoms |
| Case Report | Lu (2013) ⁶⁹ | China | 1 (38 yo 28 weeks gestation) | TB (abdominopelvic) | no | cured of TB | preterm cesarean delivery at 29 weeks, outcome unknown | abdominal hysterectomy, bilateral salpingectomy, and omentectomy |
| Case Report | Loughsbury (2009) ⁷² | UK | 2 (33 weeks and 33 weeks) | EPTB (spinal) | no | cured of TB | preterm cesarian delivery for both at 33 and 34 weeks; LBW reported (1980g and 2100g) | mothers given steroids to aid fetal lung maturation |
| Case Report | Masukume (2013) ⁶⁶ | Zimbabwe | 1 (33 yo 18 weeks gestation) | PTB | no | cured of TB; vaginal delivery at 41 weeks | normal birth weight | delayed TB diagnosis |
| Case Report | Muin (2015) ⁶⁴ | Switzerland | 1 (19 yo, 28 weeks gestation) | EPTB (brainstem) | no | cured of TB; failed induction at 40 weeks, underwent cesarean section | not discussed | improvement neurological symptoms; steroids to aid fetal lung maturation; recommendation for treatment via a multidisciplinary approach inclusive of neonatal care |
| Case Report | Rajput (2021) ⁶⁷ | India | 1 (21 yo female postpartum) | EPTB (intestinal) | no | died from TB due to sepsis secondary to 20 ileal perforations from TB and delayed presentation to the hospital; asymptomatic TB during pregnancy with symptom manifestation postpartum | full term stillbirth | delayed TB diagnosis, was not started on TB treatment prior to death |
| Case Report | Rauf (2009) ⁷⁰ | UK | 1 (23 yo) | EPTB (brain and eye) | no | cured of TB; complications resolved with scarring of eye | full term induction vaginal birth; normal birth weight | Patient stopped ATT by herself 3 weeks before delivery because she wanted to breastfeed |
| Case Report | Ramatovska (2019) ⁷ | Ukraine | 1 (38 yo became pregnant during TB treatment) | DR PTB | no | treatment failure and extensive resistant TB by month 7 of treatment; recommended induced abortion based on clinical indications of: non-conversion of culture after 3 months of DR-TB treatment, nephropathy and intoxication syndrome secondary to diabetes, adenomyosis and bloody vaginal discharge | induced abortion due to advanced TB disease | Initial diagnosis found resistance to rifampicin, unclear what treatment patient was on; on month 1, sputum found resistance to further isoniazid and pyrazinamide, unclear what therapy was placed on her; on month 7, was further found to be resistant to ofloxacin, kanamycin, and capreomycin, unclear what therapy was placed on her at this time |
| Case Report | Sagar (2016) ²⁶ | India | 1 (20 day old baby) | Congenital | no | unknown TB outcome; diagnosed with PTB at 8 month pregnancy and started on TB treatment 8 days prior to baby's presentation of fever, decreased appetite, and rapid breathing | preterm birth at 24 week gestation; LBW 1800g at 20 days old; X-ray after 12 month treatment normal | treated x12 months on isoniazid, rifampicin, pyrazinamide, and amikacin |
| Case Report | Sharma (2018) ⁶⁹ | India | 1 (25 yo old 4th month of pregnancy) | EPTB (gingiva) | no | cured of TB; normal vaginal delivery | NA | NA |
| Case Report | Shi (2021) ⁶⁸ | China | 1 (26 yo 15 week gestation) | PTB, EPTB (disseminated) | no | improved with combined therapeutic therapy; follow up at 2 month doing well on isoniazid and rifampicin; Patient with history of Evans syndrome on daily corticosteroid. On day 3 hospitalization, condition deteriorated; final diagnoses included disseminated TB-associated hemophagocytic lymphohistiocytosis, severe PNA, respiratory failure, severe acute respiratory distress syndrome | fetal death day 5 of hospitalization, causing tuberculous granules found in placenta | was initiated on isoniazid, rifampicin, ethambutol, pyrazinamide, and moxifloxacin, then on "four drug...regimen" with methylprednisolone and immunoglobulin and plasma exchange with improvement and d6c day 19 |

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| Case Report | Shital (2018) ⁴⁸ | India | 1 (25 yo 24 weeks gestation) | PTB, EPTB (laryngeal) | no | cure of TB; normal vaginal delivery | normal birth weight | NA | |
| Case Report | Stuart (2009) ⁷⁷ | Australian | 1 (newborn delivered at 28 weeks) | Congenital | no | TB outcome not reported; no other maternal outcome reported | premature birth, emergency cesarian section, LHW; ventilator use due to respiratory distress; neonatal jaundice, right-sided Erb palsy | neutropenia due to ethambutol in newborn; all newborn's complications resolved and newborn was discharged from hospital | |
| Case Report | Yeh (2019) ²⁸ | Taiwan | 1 (8 day old neonate) | Congenital | no | initiated on TB treatment but died 3 days later | delivered at 37 weeks with LHW (2380g); presented with fever x2 days; diagnosed with TB day 20, initiated on TB treatment at day 24; no TB outcome reported | delayed TB diagnosis; 33 yo mother with dry cough 1 week postpartum, admitted to ICU for altered mental status 24 day postpartum, tested for TB due to suspected TB in neonate | |
| Case Report | Zhu (2021) ³⁹ | China | 1 (26 yo 11 weeks gestation) | EPTB (plural space) | no | TB treatment completion without relapse or liver damage at month 8 follow up; underwent liver transplant at 17 week gestation; uterine curettage day 27 due to incomplete abortion | induced termination of pregnancy by induction at 21 week gestation (30 day postop liver transplant of mother) due to ventricle widening in the fetus | TB treatment changed 3 times: isoniazid, rifampicin, and pyrazinamide at initiation; then amikacin, levofloxacin, and meropenem after liver transplant; then linezolid, levofloxacin, and pyridoxine at postop day 20 | |
| Case Series | | | | | | | | | |
| Case Series | Acquah (2021) ⁵¹ | South Africa | 5 (18-29 years old) | DR PTB | yes (n=3) | 3 cured, 2 lost to follow up | delivered at term, no congenital abnormalities, none developed TB or HIV | all women were exposed to regimens containing bedaquiline, delamanid, and linezolid | |
| Case Series | Bhadve (2011) ⁷⁹ | India | 3 (third trimester pregnancies, median age=30) | EPTB (spinal) | no | 1 woman with residual spastic paraparesis, otherwise complete neurological recovery in the other 2 women; unclear TB outcomes | 1 spontaneous abortion; urgent 2 cesarian section with 1 LHW (2400g); 1 newborn suffers neonatal sepsis in premature care facility; 1 newborn normal birth weight | kyphosis, spinal cord compression | |
| Case Series | Bishara (2015) ⁵¹ | Israel | 6 (35-41 weeks gestation, median age=22) | both (n=4 PTB, n=2 EPTB) | no | all 6 cured of TB | 1 intrauterine growth restriction; 2 out of 6 PNA post-delivery (mothers had EPTB); 2 newborns treated for latent TB | TB diagnostic and treatment delay in all 6 women | |
| Case Series | Du (2021) ⁶⁰ | China | 10 (mean gestational age 36.6 SD 2.2 weeks) | congenital | no | none treated for TB during pregnancy though 1 woman was diagnosed during pregnancy | 5 were preterm infants (<37 weeks); during treatment: 4 failed to thrive, 3 had neurological sequelae including seizures, 1 had seizure requiring shunt and physical therapy; at 2 months follow up: 1 baby lost to follow up, five fully recovered, 3 babies had hepatotoxicity secondary to TB treatments; at 6 months of age, 3/9 babies had normal growth and development | NA | |
| Case Series | Gai (2021) ⁵¹ | China | 7 (ages 28-34) | PTB, EPTB (miliary TB, with 2 TB meningitis cases) | not reported | achieved pregnancy after in-vitro fertilization; 4 spontaneous abortion, 3 induced abortions; all recovered after TB treatment | NA | clinical pregnancy and live birth rates significantly lower in infertile patients with untreated prior TB than in those without | |
| Case Series | Li (2019) ⁴⁸ | China | 28 pregnant women with TB (IQR 27-33) | PTB, EPTB | no | 10/28 were initially misdiagnosed as other respiratory illnesses; 27 cured of TB, 1 death | 4 spontaneous abortions, 9 induced abortions; 4 neonates were healthy; 1 small for gestational age, 1 stillbirth, 2 congenital TB, 1 died at 4 months old | 35.7% of cases of misdiagnosis potentially due to atypical presentation leading to treatment delays and adverse pregnancy outcomes | |

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| Case Series | Modi (2021) ³⁶ | India | 2 pregnant women with TB-COVID-19 coinfection (third trimester pregnancy) | PTB | no | patient 1 treated with quadruple therapy for TB and remdesivir and oxygen in ICU x10 days and was discharged; patient 2 underwent c-section at 38 weeks and managed in ICU with O2 and remdesivir and quadruple therapy for TB | term delivery with normal weight baby for patient 2; no discussion regarding patient 1's fetus | NA |
| Case Series | Palacios (2009) ¹⁹ | Peru | 38 (mean age=24.4 SD=5.8) | DR PTB (n=37), EPTB (n=1) | yes (n=3) | 23 (n=38, 61%) cured of TB; 4 clinical TB deterioration, 6 deaths; 2 episodes of vaginal bleed, 1 placenta previa, 1 premature membrane rupture | 5 spontaneous abortions; 1 stillborn; of 32 infants born alive: three with LBW <2500g, one fetal distress; two latent TB treated, 1 active TB treated at mo 9 | treatment was suspended with confirmed pregnancy (n=14); second-line drugs may be continued despite teratogenic risk; most had advanced disease at baseline (n=36) |
| Case Series | Peng (2011) ⁴⁶ | China | 6 neonates (5-42 days old) | congenital | NA | 3 mothers had military TB, 1 had genital TB, 3 unknown TB; outcomes of mothers not discussed/unknown | 4 full term, 2 premature babies; all 6 babies demonstrated cough and hepatosplenomegaly, 4 with rales, 3 fever, respiratory distress, and poor feeding; two with abdominal distention, 1 jaundice; 1 with sepsis; 4 improved with TB treatment, 2 died without TB treatment initiation | study also conducted a literature review of congenital TB - 95% of cases had mothers with active TB during pregnancy; laboratory results may cause misdiagnosis of other bacterial infections vs TB |
| Case Series | Rathod (2017) ¹⁴ | India | 5 (third trimester pregnancies, median age=24) | EPTB (spinal) | no | 3 normal vaginal deliveries | 1 spontaneous abortion; 1 fetal demise due to adverse reaction to anesthesia | 3 with resolution of TB, no sequelae; 1 with mild back pain; 1 with mild neck pain; 1 patient with recovery of paraplegia; 1 with destruction of spinal vertebra and kyphosis; 1 with 15 degrees kyphosis |
| Case Series | Suresh (2015) ⁵¹ | India | 17 (median age=24) | both | yes | 5 deaths, 3 died before delivery, 4 elected abortions | 1 death | high maternal mortality in low-resource high HIV burden countries |
| Case Series | Tabarsi (2011) ⁷⁷ | Iran | 5 (median age=22) | DR PTB | NA | cured of TB; normal vaginal delivery | normal weight | offer of induced abortion; treatment was suspended with confirmed pregnancy and resumed at patient's decision |
| Case Series | Toro (2011) ⁴⁶ | sub-Saharan Africa | 33 (median age=29 IQR 27-31) | Not reported | yes | 32 survived, 25 with live births, 1 induced abortion, 5 spontaneous abortions/stillbirths, 1 infant outcome unknown | rate of spontaneous abortion/stillbirths among women with TB-HIV coinfection more than twice that compared to women receiving ART alone during pregnancy (15.2% versus 5.9%); 1 stillbirth was HIV+ | analyzed women with TB-HIV coinfection; median gestational age 33 IQR 27-37, median CD4 97 IQR 48-196 |
| Case Series | Ye (2019) ⁵⁷ | China | 6 (mean age 32.17± 3.87 years) | EPTB | no | cured of TB | 3 spontaneous abortions, 3 elected abortions | delayed TB diagnosis (10-32 days from onset of symptoms to diagnosis) |
| Case-control | | | | | | | | |
| Case-control | Assuquo (2012) ¹⁹ | UK | 24 (pregnant TB) + 72 (pregnant control, no TB) | PTB (n=13), EPTB (n=10), both (n=1) | yes (n=1) | cured of TB not reported | LBW (p=0.03) explained by pre-term delivery (OR 179.9, p<0.001) | complications include hepatitis, cholestasis, and vomiting |
| Case-control | Chopra (2017) ¹¹ | India | 50 women matched with TB control | both | NA | anemia (23% vs. 4% control, p-value not reported); 2/50 died due to TB disease progression, 2/50 lost to follow up | 3x more likely to have fetal growth retardation (OR 3.2, 95% CI 1.3-7.9), preterm labor x5 more likely (OR 5.9 95% CI 2.5-13.9) | NA |

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| Case-control | Lin (2010) ³⁸ | Taiwan | 761 women matched with 3805 on age and year of delivery | not reported | no | NA | SGA (aOR 1.22, 95% CI 1.00-1.49); LBW (aOR 1.35, 95% CI 1.01-1.81) | NA |
| Cohort Study | | | | | | | | |
| Retrospective Cohort Study | Ahmadra (2020) ¹⁷ | US | 1450 TB cases out of 24,149,664 deliveries | PTB, EPTB | NA | TB group more likely to experience pre-term labor (90, 13% versus 162435, 6.8%, $p=0.004$), to have UTHs (7.0% versus 3.3%, $p=0.02$), and undergo cesarean delivery (8.9% versus 21.5%, $p=0.007$) compared to those without TB | fetal distress more likely in fetuses with mothers infected with TB compared to control group (5% versus 2.1%, $p=0.02$) | NA |
| Retrospective Cohort Study | Ali (2011) ³⁷ | Sudan | 42 (mean \pm 30.7, SD 3.7) out of 15252 pregnant women | 35 PTB, 7 EPTB | yes (n=5) | anemia (83.3% versus 61.9%, $p=0.02$) compared to those without TB, 2 deaths in women with TB-HIV coinfection | LBW for newborns to women with tuberculosis (28.3% vs 14.3%, $p<0.03$); higher numbers of protein births (28.5% versus 19.0%, $p=0.04$) compared to those without TB | NA |
| Retrospective Cohort Study | Ali (2021) ³¹ | Pakistan | 27 pregnant women with TB out of 2,896 screened | 26 PTB, 1 DR PTB | NA | Compared to those without TB, women with TB had higher prevalence of reported weight loss (59.2% vs 23.0%, $P<0.01$); 25 of women with TB successfully linked for treatment; 24 completed treatment, 1 lost to follow up | 26 live births, 1 intrauterine death at 32 weeks, 8 had LBW (<2500g), 1 had very LBW (<1700g); 16 gastric samples collected and no vertical transmission was found | NA |
| Retrospective Cohort Study | Baluku (2021) ³² | Uganda | 18 (mean age 27.5, SD 5.2 years) | DR PTB | yes (n=8) | Treatment success among 15 (83.3%) patients, 2 (11.1%) were lost to follow up and 1 (5.6%) died; elevated liver enzymes (81.8%, $n=11$) and hearing loss (33.3%, $n=15$) were the most frequently encountered drug adverse events | NA | 6 were pregnant at initiation of TB treatment |
| Prospective Cohort Study | Bekker (2016) ³⁹ | SA | 74 comparing maternal TB-HIV and TB | both (14% DR PTB) | yes (n=53, 72% sample) | 5 deaths in HIV-coinfected attributed to TB; women delivering LBW infants were 3.83 times more likely to have unfavourable TB treatment outcome such as death, treatment failure, loss to follow up (95% CI 1.40-10.53, $p=0.009$), compared to women delivering infants weighing > 2500 grams. | 6 infants died, 4 stillbirths, all to HIV positive women; 49 premature, 44 LBW, 2 congenital TB, 57 infants given isoniazid prophylaxis, 39 with outcomes at 6 months: 24/39 (62%) completed treatment, 1/39 (33%) did not, and 2/39 (5%) died; of 55 HIV-exposed infants, HIV PCR test performed on 45, 3 were + and initiated on ART | median CD4 count 155 IQR 11-565, 29/53 (55%) on ART at time delivery, 10 (19%) no ART. Women with HIV-coinfection had more severe EPTB (15% versus 0%); only 64% had documented ART use |
| Retrospective Cohort Study | Dennis (2018) ³³ | US | 4053 TB positive among 57393459 pregnancy and delivery hospitalizations | not reported | yes | rate of pregnancy complications (severe pre-eclampsia, eclampsia, placenta previa/accreta/abruption, antepartum/postpartum hemorrhage, sepsis, anemia) 80% higher among TB infected mothers compared to non-TB infected mothers (Composite rate 293.2 TB positive versus 166.5 TB negative) | NA | non-Hispanic black mothers have an aOR 2.77 (95% CI: 2.35, 3.25) of non-TB related death compared to white mothers; TB infected mothers have similar risk level across all ethnicities (white, black, Hispanic); over 1/3 of all TB cases were diagnosed among mothers of Hispanic origin |
| Retrospective Cohort Study | El-Messidi (2016) ⁴⁰ | US | 2064 | not reported | NA | increased aOR of chorioamnionitis (OR=1.35, 95% CI, 1.04-1.74), postpartum anemia (OR=1.51; 95% CI, 1.22-1.87), PNA (OR 8.42; 95% CI, 5.77-12.29), ARDS (OR, 2.85; 95% CI, 1.35-6.10), mechanical vent (OR 3.33, 95% CI, 1.66-6.68), maternal mortality increased among pregnant women with TB (OR=6.27, 95% CI, 2.01-19.58) | congenital anomalies (aOR=1.8, 95% CI 1.24-2.62) | Medicaid the most common payer for TB-related hospitalizations; more pregnant women with TB from lower income quartiles |

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| Retrospective Cohort Study | Fernandez (2018) ³⁰ | US | 4053 TB positive cases among 57393459 pregnancy and delivery hospitalizations | not reported | yes (n=110) | rate of postpartum hemorrhage highest in TB only group (45.5 per 1,000 hospitalizations) compared to TB and HIV negative group (25.8 per 1000), similar to anemia (216.6 compared to 102.7 per 1000 hospitalizations); compared to HIV & TB negative mothers, mothers with HIV or TB have significantly higher odds of pregnancy complications (HIV, aOR=1.4, 95% C.I. 1.32-1.47; TB, aOR=1.91, 95% C.I. 1.64-2.23) | NA | Rate of TB among HIV-positive mothers was 21 times higher compared to rate of TB in HIV-negative mothers; low socioeconomic status and having public or no health insurance were biggest risk factors for HIV or TB mono-infection and HIV-TB coinfection/ pregnancy complications highest among HIV-coinfected mothers (331.28 per 1,000 hospitalizations), followed by those with TB mono-infection (292.1 per 1,000 hospitalizations) |
| Retrospective Cohort Study | LaCourse (2016) ¹² | US | 134 matched by year delivery and TB status | not reported | NA | NA | LBW (aRR=3.74, 95% C.I. 1.40-10.00); SGA NA (aRR=1.95, 95% C.I. 1.11-3.41) | |
| Retrospective Cohort Study | Loveday (2020) ³¹ | SA | 108 | DR PTB | yes (n=88, 81%) | completed treatment or cured of TB (67%), treatment failure (3%), death (3%) | fetal and neonatal deaths (9%), treated for DR PTB in the first year of life (2%); LBW for those exposed to bedaquiline (45% vs 24%, p=0.034) | mean age 28, SD ±6.13; baseline cd4 median 353 IQR 165-511 low baseline hemoglobin a predictor of poor TB treatment outcome (aHR 0.67, p= 0.006); women living with HIV had a higher risk of a poor pregnancy outcomes (aHR 3.35, p=0.030); bedaquiline and levofloxacin are predictors of LBW |
| Retrospective Cohort Study | Mokhele (2021) ³² | SA | 35 | DR PTB | yes (n=24) | Overall 48.6% had adverse events; 82.4% had 1 and 17.6 two or more; most prevalent was nephrotoxicity (35.3%), anemia (23.5%), hypokalemia (23.5%), ototoxicity and rash (11.8%); HIV-negative patients had fewer adverse events (18.2% vs 62.9%, p=0.05); of 28 with TB outcomes, 17 completed treatment, 8 lost to follow up, 3 died, for 20 women with pregnancy outcomes, 65% of these had an adverse pregnancy outcomes | of 20 known pregnancy outcomes, there were 4 term births, 11 preterm births, 1 miscarriage, 1 neonatal death, and 3 pregnancy terminations; 10/11 preterm births were from mothers with HIV coinfection and 1 neonatal death of mother with HIV coinfection as well | median age 30.1 IQR 28-35, median CD4 145 IQR 51-301 Patients with HIV coinfection had more severe immunosuppression (median baseline CD4 145) with more adverse outcomes; authors propose that DR PTB & HIV coinfection during pregnancy are cause of poor birth outcomes, recommending increased TB prevention strategies and TB treatment in antenatal care & HIV programs |
| Retrospective Cohort Study | Rendell (2016) ³³ | Mongolia | 107 | PTB and EPTB | no | 10/85 elected abortion after TB diagnosis | NA | 2/82 TB treatment failure, 4/82 lost to follow-up; higher incidence of TB in pregnancy compared to general population (IRR 1.31, CI 1.08-1.59) |
| Retrospective Cohort Study | Sade (2020) ³⁴ | Israel | 46 neonates and mothers with TB compared to 243636 mothers without TB | PTB, latent TB | yes (n=2 mothers) | 3 cases of placental abruption, 1 resulting in perinatal death; placental abruption is significantly associated with mothers with TB compared to those without (23.1% vs. 2.9%, p=0.001); TB was an independent risk factor for placental abruption and very LBW when controlling for maternal age (10.76, 95% CI 3.37-34.36) and gestational age (11.27, 95% CI 3.44-36.96) | higher rates of very LBW (<1500g) newborns NA in women with latent TB when compared to those with active TB during pregnancy, latent TB, and those without TB (0.0%, 5.6%, and 0.6%, p < 0.001); no significant difference in long-term infectious morbidity between children of mothers with and without TB | |

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| Prospective Cohort Study | Salazar-Austin (2007) ³⁵ | SA | 80 (pregnant women with TB) matched with 155 controls (no TB) | PTB and DR PTB | yes | ameboma more in cases than control (27.5% versus 11.0%, $p=0.001$); pre-eclampsia 8-fold more common among case patients than controls (5.2% vs. 0.7%, $p=0.03$); higher rates of maternal hospitalization (25% vs. 11%, $p=0.005$) | infants born to HIV/TB moms twice as likely to have LBW (20.8% vs. 10.7%, $p=0.04$), prolonged hospitalizations at birth (51% vs. 16%, $p<0.001$) than born to HIV only; infants born to HIV/TB moms had 10-fold increased infant mortality risk ($p=0.001$) | median age 29 IQR 26-31, median gestation 30 weeks (26-34), CD4 among cases 242 IQR 137-379) compared to controls 369, IQR 263-476, $p<0.001$), less cases were virally suppressed than controls (30.8% versus 47.7%, $p=0.001$); over 90% of both cases and controls were on ART at screening | |
| Retrospective Cohort Study | Sun (2021) ³⁷ | China | 6389 cases (pregnant women or partner with TB) matched with 31945 controls (couple without TB) | PTB | unknown | no significant differences in PTB (OR: 0.87, 95% CI 0.66-1.12) between women with and without TB; women whose partner had TB had a higher risk of stillbirth (OR 2.13, 95% CI 1.10-3.86) than women whose partner did not have TB | no significant differences in stillbirth (OR 1.48, 95% CI 0.61-3.99) and LBW (OR 1.04, 95% CI 0.79-1.35) between women with and without TB | also stratified analysis by TB treatment and found similar results of pregnancy outcomes | |
| Prospective Cohort Study | van der Walt (2020) ³⁸ | SA | 26 | DR PTB | yes ($n=20$) | 65.4% successful treatment outcome; no statistical significance between HIV coinfection and pregnancy outcome of mother or fetus; 57.7% had at least one adverse drug event (GI disturbance, neuropsychiatric symptom, rash, thrombocytopenia, arthralgia, dizziness, hearing loss, anemia) | Birth outcome significantly associated with the trimester in which DR TB treatment was initiated (60% in 1st trimester vs 90% in 2nd vs 100% in 3rd, $p=0.036$); 2 abortions/miscarriages, 1 stillbirth, unclear of abortions were induced or spontaneous | mean age 29 years, SD ± 5.1 ; missing information of type of delivery, complications of pregnancy, and birth weight | |
| Retrospective Cohort Study | Yalav (2019) ³⁶ | India | 30 | EPTB | no | significant increased incidence of oligoamnios and preterm rupture of membranes/preterm delivery compared to non-TB patients (13.3% versus 1.6%, $p=0.001$); death secondary to shock and end-organ failure from miliary TB; 7 women underwent emergent cesarean delivery for fetal distress | 1 stillborn due to severe miliary TB in mother; NA LBW in newborns of moms with TB compared to non-TB moms (3234.26x1379.5 grams versus 2712.3x1635.7, $p=0.001$); more incidence of SGA in moms with EPTB compared to non-TB moms. (33.3% versus 7.8%, $p=0.001$) | | |
| Other | | | | | | | | | |
| Service Improvement Project | Cornish (2020) ⁴⁰ | SA | 56 (ages 13-50) pre-intervention, 58 post-intervention | DR PTB | yes ($n=34$ pre-intervention, $n=23$ post-intervention) | 3 pregnancies during treatment before improvement project; after improvement project: 0 pregnancy | 2 termination of pregnancy; 1 uncomplicated section at full term before improvement project | training intervention included family planning training of DRTB nurses and stocking the DRTB unit with long-acting injectable contraceptive; proportion of women on injectable contraceptives by the time of DRTB treatment initiation increased more than 3-fold, from 23.9% to 77.4% ($p=0.0001$) | |
| Secondary Data Analysis | Rickman (2020) ³⁹ | US | 235 pregnant women ($n=73$ with TB, $n=162$ without TB) of which 7 later identified to have TB | not reported | yes | 43% of prevalent cases experienced complications (hypertension, antepartum hemorrhage, rupture of membranes, unplanned cesarean section, sepsis, maternal death, spontaneous abortion, stillbirth, prematurity, LBW, SGA, perinatal death, fetal abnormalities) compared to 35% of control ($p=1.0$) | 43% infants experienced complications including TB, neonatal sepsis, and infant hospitalization among TB prevalent cases compared to 11% of control ($p=0.045$) | median age 29 IQR 25-31, CD4 361 IQR 303-510; ART at baseline 2/7 (29%), 1 undetectable VL; in a cohort of women living with HIV, 7 subclinical cases were identified and discussed in this study; subclinical maternal TB may result in elevated risk of adverse infant outcomes | |
| Secondary Data Analysis | van de Water (2020) ⁴⁶ | Peru | 36 pregnant women with TB compared with 1298 non-pregnant with TB | PTB and DR PTB | yes ($n=1$ in pregnant and $n=28$ in non-pregnant women) | 97.1% pregnant women were HIV negative; 28 had reported successful TB outcome (cured, completed treatment, treatment ended early by clinical team), 1 was treatment failure; 8 pregnant women had DR PTB - 7 completed treatment/cured, 1 lost to follow up | neonate outcome not reported | median age of pregnant women 24.5 (IQR 21-30.5) | |

Abbreviations: MTCT-Plus, maternal to child transmission-Plus; PTB, pulmonary TB; EPTB, extrapulmonary TB; DR PTB, drug resistant pulmonary TB; DR EPTB, drug resistant extrapulmonary TB; LBW, low birth weight <2500g.

SD, standard deviation; SGA, small for gestational age; PNA, pneumonia; ARDS, acute respiratory distress syndrome; NA, not applicable; aOR, adjusted odds ratio; aRR, adjusted risk ratio; uHR, unadjusted hazard ratio; NA, not applicable