

Health Issues on Pregnant and Breastfeeding Women

Learning Objectives:

At the end of the session, the participant will be able to:

1. Understand the importance of Maternal Health
2. Discuss the effects of certain Infectious Diseases that may complicate pregnancy and lactation
3. Discuss the effect of Substance Abuse in pregnancy and lactation
4. Know about the Republic Act. 10151 and implement it to the work setting

MATERNAL HEALTH

GOAL

- Improve the health and well-being of women, infants, children, and families

IMPORTANCE OF MATERNAL HEALTH

- Improving the well-being of mothers, infants, and children is an important public health goal globally
- Their well-being determines the health of the next generation and can help predict future public health challenges for families, communities, and the health care system
- “Good maternal health services can also strengthen the entire health system”

- Women's Health and Safe Motherhood Project 2 (WHSMP2)- 2006

Pregnancy can provide an opportunity to identify existing health risks in women and to prevent future health problems for women and their children. These health risks may include:

- Hypertension and heart disease
- Diabetes
- Depression
- Intimate partner violence
- Genetic conditions
- Sexually transmitted diseases (STDs)
- Tobacco, alcohol, and substance use
- Inadequate nutrition
- Unhealthy weight

Many factors can affect pregnancy and childbirth, including:

- Preconception health status
- Age
- Access to appropriate preconception, prenatal, and interconception health care
- Poverty

Determinants of Maternal, Infant, and Child Health

- Conditions in the places where people live, learn, work, and play affect a wide range of health risks and outcomes.
- Environmental and social factors such as access to health care and early intervention services, educational, employment, and economic opportunities, social support, and availability of resources to meet daily needs influence maternal health behaviors and health status.

HIV/AIDS in Pregnancy and Breastfeeding

Mechanism of Transmission

In Utero

- Majority of in utero transmission is thought to occur during the third trimester
- Transmission is thought to be related to the breakdown of the integrity of the placenta, leading to the microtransfusions of viremic maternal blood across the placenta to the uterus
- Genital tract infections and placental inflammation, especially chorioamnionitis, can increase in utero HIV transmission

Mechanism of Transmission

Intrapartum

- Transmission is postulated to occur through contact of infant mucosal membranes with HIV virus in blood and secretions during the birthing process
- In the absence of retroviral treatment, duration of membrane rupture greater than four hours has been associated with increased risk of transmission
- In addition, microtransfusions across the placenta during labor contractions also likely contribute to the heightened risk of transmission during the labor and delivery period

Mechanism of Transmission

During Breastfeeding

- The mechanism of transmission of HIV through breast milk has not been fully elucidated
- HIV RNA can be detected in colostrum and breast milk, but some studies suggest that HIV-infected cells within breast milk may play a more important role in infant transmission than cell-free virus
- The portal of entry of HIV in the breastfed infant has not been defined but may include the intestine or tonsillar tissues

Overview of Care to Prevent Transmission

- Routine rapid HIV testing during the initial antenatal visit to identify HIV-infected women early during pregnancy
- Initiation of effective lifelong antiretroviral therapy (ART) at the time of diagnosis of HIV infection
- CD4 cell count screening and clinical assessment of WHO staging for women who are HIV-infected
- Antenatal clinic/PMTCT visits during pregnancy for drug refills, toxicity monitoring, and routine pregnancy care
- Delivered by a skilled birth attendant, preferably at a health facility
- Infant antiviral prophylaxis

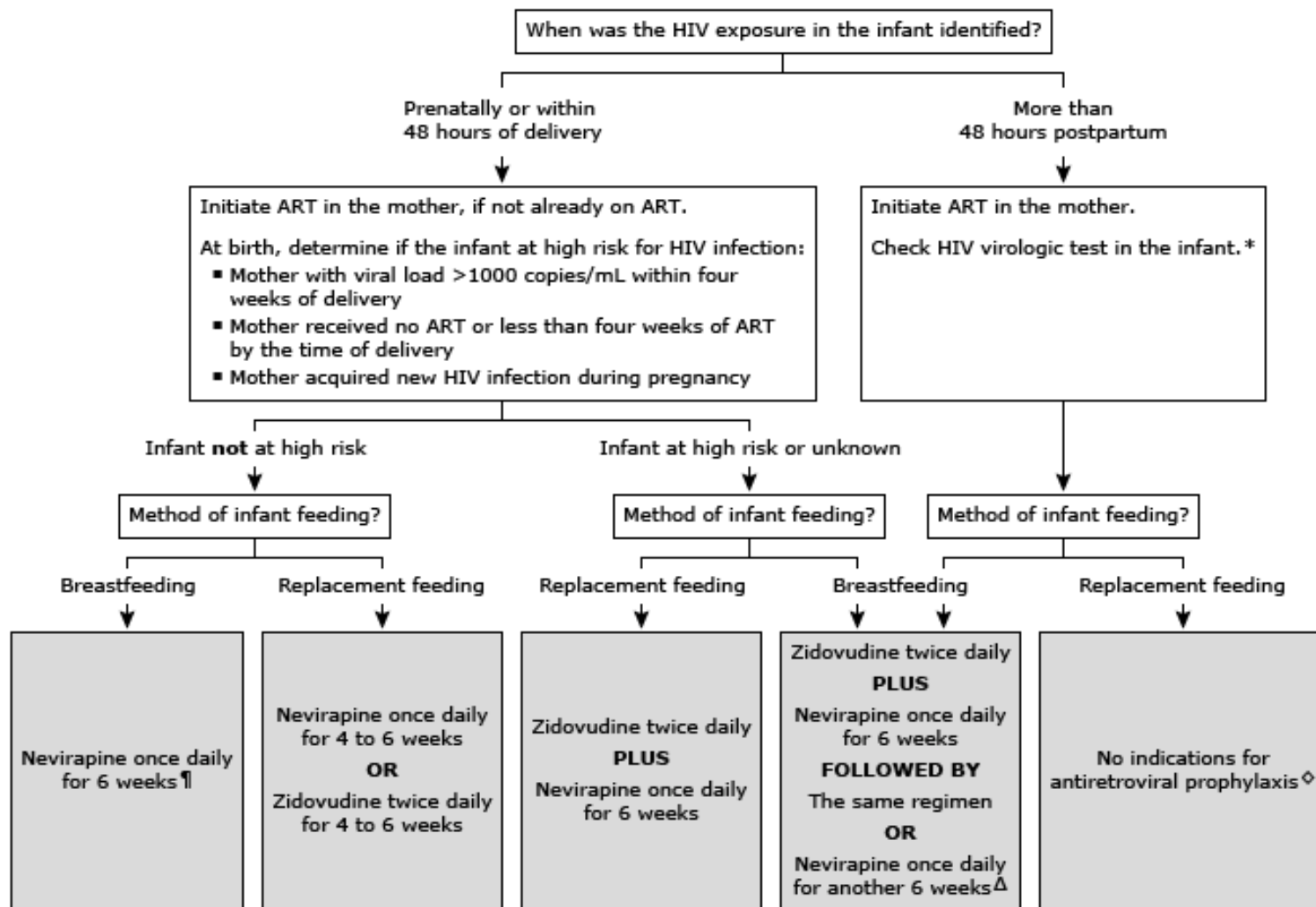
Overview of Care to Prevent Transmission

- Follow-up services at six weeks postpartum for mother and infant:
 - Continued management of lifelong ART
 - Family planning
 - Counseling on infant feeding, promotion of six months exclusively breastfeeding with continued breastfeeding thereafter with introduction of safely-prepared nutritious, locally available foods at six months
 - Early infant HIV diagnosis using nucleic acid amplification testing (NAT)
- Ensure referral and long-term linkage to HIV care and treatment for the mother
- Ensure counseling for and long-term monitoring of adherence to ART taken by the mother for PMTCT and maternal health

Overview of Care to Prevent Transmission

- Ensure that the infant receives routine growth monitoring, routine immunizations, and ongoing evaluation of HIV infection status, including final determination through HIV antibody screening after weaning
- For children determined to be HIV-infected, rapid referral to HIV care and treatment services for initiation of ART

Antiretroviral prophylaxis in infants born to HIV-infected mothers in resource-limited settings



TUBERCULOSIS in Pregnancy

NATURAL HISTORY OF TB IN PREGNANCY

- Tuberculosis (TB) infection is caused by inhalation of viable bacilli, which may persist in an inactive state (known as latent TB infection [LTBI]) or progress to active TB disease
- Individuals with LTBI are asymptomatic and not contagious. Latent TB bacilli remain viable and may reactivate, causing active symptomatic TB disease, which can be transmitted via airborne spread
- Pregnancy has not been shown definitively to influence the pathogenesis of TB or the likelihood of progression from latent infection to active disease, nor has it been shown to affect the response to treatment

NATURAL HISTORY OF TB IN PREGNANCY

- Postpartum women with active pulmonary TB can transmit infection to their infants
- Maternal active TB may be associated with congenital infection by hematogenous dissemination via the placenta; this is very rare

LATENT TUBERCULOSIS INFECTION IN PREGNANCY

- Testing asymptomatic women for latent tuberculosis (TB) infection (LTBI) during pregnancy is warranted only in the setting of significant risk factors for progression to active disease during pregnancy that would justify prompt treatment for LTBI
 - Suspicion for recent TB infection based on epidemiologic exposure
 - Significant immunocompromised, such as human immunodeficiency virus (HIV) infection or profound immunosuppressive therapy
- Diagnostic tools for latent tuberculosis include:
 - tuberculin skin testing (TST)
 - interferon-gamma release assays (IGRAs).

ACTIVE TUBERCULOSIS DISEASE IN PREGNANCY

- Diagnostic evaluation for active tuberculosis is warranted in the following circumstances:
 - Positive screening test ([tuberculin skin test](#) [TST] or interferon-gamma release assay [IGRA]) for latent TB; these tests should not be used to screen for active TB.
 - Clinical suspicion for active tuberculosis, based on clinical manifestations and epidemiologic factors (such as exposure to a known or suspected case, residence in or travel to an endemic area)

Interpretation of tuberculin skin test

Tuberculin skin test reaction size (mm)	Situation in which reaction is considered positive*
<5	HIV infection plus close contact of active contagious case [¶]
≥5	HIV infection
	Close contact of active contagious case
	Abnormal chest radiograph with fibrotic changes consistent with old TB
	Immunosuppressed patients: TNF-alpha inhibitors, chemotherapy, organ transplantation, glucocorticoid treatment (equivalent of ≥15 mg/day prednisone for ≥1 month)
≥10	Persons with clinical conditions that increase the risk of reactivation, including silicosis ^Δ , chronic renal failure requiring dialysis ^Δ , diabetes mellitus, some malignancies (leukemias, lymphomas, carcinoma of the head, neck, or lung), underweight (≥10 percent ideal body weight), jejunioileal bypass, injection drug users
	Children less than 4 years of age
	Foreign born from countries with incidence >25/100,000 [◇]
	Residents and employees in high-risk settings, such as prisons, jails, healthcare facilities, mycobacteriology labs, and homeless shelters
≥15	Healthy individuals age 4 years and older with low likelihood of true TB infection [§]

The table summarizes the approach to interpretation of initial TST; issues related to interpretation of repeat TST are discussed separately (refer to UpToDate topic on diagnosis of latent TB infection).

Treatment of latent tuberculosis in pregnancy

Drug	Dose	Frequency	Duration
Preferred regimens			
Isoniazid*	5 mg/kg (up to 300 mg) orally	Daily	Nine months
	15 mg/kg (up to 900 mg) orally	Twice weekly ¶	Nine months
Alternative regimens			
Isoniazid*	5 mg/kg (up to 300 mg) orally	Daily	Six months
	15 mg/kg (up to 900 mg) orally	Twice weekly ¶	Six months
Rifampin	600 mg orally	Daily	Four months

* Pyridoxine (vitamin B6; 25 to 50 mg daily) should be administered to pregnant women receiving isoniazid as well as to infants of breastfeeding mothers receiving isoniazid.

¶ Twice-weekly regimens must be administered with directly observed therapy.

TREATMENT

- Active TB in pregnancy is associated with adverse maternal and fetal outcomes; untreated active TB represents a greater hazard to the mother and fetus than antituberculous therapy
- The regimen of choice for empiric treatment of presumed drug-susceptible active TB during pregnancy consists of isoniazid, rifampin, and ethambutol administered for two months followed by isoniazid and rifampin for seven months, for a total of nine months of therapy

BREASTFEEDING

Breastfeeding should be encouraged among women on treatment for latent tuberculosis and after at least two weeks of treatment for active tuberculosis

MONITORING

- Pregnant women and postpartum women within three months of delivery should have baseline liver function testing (serum transaminases and bilirubin) prior to initiation of treatment for latent or active TB
- In the absence of evidence for underlying liver disease, initiation of antituberculous drugs should be followed by monthly evaluation for symptoms of hepatitis, clinical examination, and liver function testing
- In the setting of liver disease or abnormal liver function tests, more frequent monitoring may be warranted

HEPAPPTITIS B in Pregnancy

HEPATITIS B IN PREGNANCY

- Hepatitis B virus (HBV) infection during pregnancy presents with unique management issues for both the mother and the fetus
- Most common cause of jaundice in pregnancy
- Acute hepatitis B virus (HBV) infection during pregnancy is usually mild and not associated with increased mortality or teratogenicity
- Acute HBV occurring early in the pregnancy has been associated with a 10 percent perinatal transmission rate
- Treatment of acute infection is mainly supportive

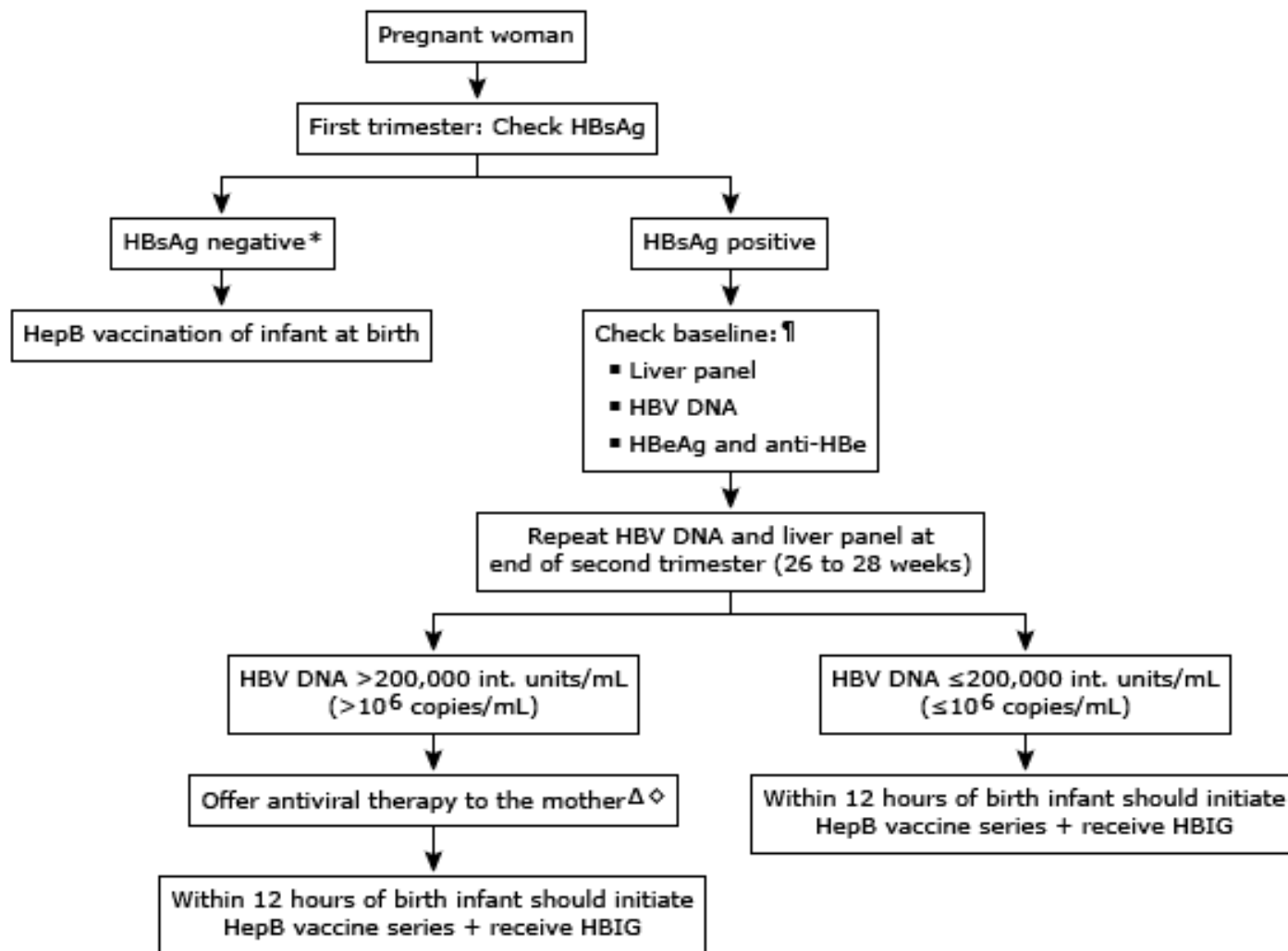
HEPATITIS B IN PREGNANCY

- Women with cirrhosis are at significant risk for perinatal complications and poor maternal and fetal outcomes, including intrauterine growth restriction, intrauterine infection, premature delivery, and intrauterine fetal demise
- Maternal complications including gestational hypertension, placental abruption, and peripartum hemorrhage were increased in the group with cirrhosis

BREASTFEEDING

- Transmission of HBV through breastfeeding is unlikely, particularly in infants who received HBIG and hepatitis B vaccine at birth
- Infants who received hepatitis B immune globulin (HBIG) and the first dose of hepatitis B vaccine at birth can be breastfed

Algorithm for hepatitis B virus during pregnancy



SUBSTANCE ABUSE in Pregnancy

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- Substance abuse during pregnancy is more prevalent than commonly realized, with up to 25% of gravidas using illicit drug
 - Difficult to detect:
 - signs and symptoms of this behavior are often subtle
 - self-reports of substance use may be misleading or infrequently elicited
 - physicians may fail to routinely screen for use
 - substance abusing pregnant women may seek little or no prenatal care

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- pregnancy is a “treatable moment” for mothers who use and abuse substances

Four general categories of substances abused by pregnant women:

1. Central nervous system depressants, including alcohol, sedatives, anxiolytics, and hypnotics
2. Stimulants, including cocaine and amphetamines
3. Opiates
4. Hallucinogens/psychotomimetics, including lysergic acid diethylamide (LSD) and phencyclidine (PCP)

Most common substance-related disorders:

Intoxication - development of a reversible substance-specific syndrome during or after substance use. It becomes a clinical problem when significant maladaptive patterns of behavior lead to distress and impairment

Withdrawal - occurs when the chronic intake of a substance is abruptly discontinued

Tolerance - the need to use an increasing amount of the drug to attain the desired effects or the decreased intensity in effects experienced with the continued use of the same amount of the substance

Addiction combines the qualities of both tolerance and withdrawal

Substance abuse - maladaptive pattern of use that results in clinically significant functional impairment without satisfying the criteria for substance dependence

- failure to fulfill reasonable obligations
- drug use in dangerous situations
- continued use despite recurrent legal, social, and psychological problems associated with the substance

EFFECTS OF SUBSTANCE ABUSE ON THE WOMAN AND HER FETUS

Maternal complications:

- respiratory, such as bacterial infections
- cardiovascular, including hypertension and endocarditis
- neurologic, with seizures, cerebrovascular accidents, and psychoses
- infectious, such as sexually transmitted diseases and HIV
- renal and gastrointestinal, including acute tubular necrosis and hepatitis
- metabolic, such as malnutrition and vitamin deficiencies.

*However, other than sexually transmitted diseases and psychiatric comorbidity, major medical complications are rare in pregnant women with substance abuse problems and few will experience end-organ damage secondary to substance use.

Obstetric and fetal complications:

- Placenta previa, abruptio placentae, premature rupture of membranes, spontaneous abortion, intrauterine growth retardation, premature delivery, birth defects, and neonatal and long-term developmental effects
- Neonatal effects of substance abuse depend on the particular substance being abused and may include congenital anomalies, neonatal medical complications, and neurobehavioral changes
- Neonatal medical complications of maternal substance abuse include sudden infant death syndrome (SIDS), neonatal abstinence syndrome (NAS), and respiratory distress syndrome

ALCOHOL ABUSE DURING PREGNANCY

Chronic alcohol use during pregnancy - ingestion of two or more drinks per day

- associated with increased rates of spontaneous abortion, higher rates of low-birth-weight infants, placental abruption, increased perinatal mortality, amnionitis, and a 3x increase in preterm deliveries
- alcohol impairs the placental transfer of essential amino acids and zinc, thus increasing the risk for intrauterine growth retardation by inhibiting protein synthesis
- **Fetal alcohol syndrome (FAS)**, the only cause of mental retardation that in theory is entirely preventable, effects 1 to 3 of every 1000 newborns, with another 3 to 5 per 1000 exhibiting less severe fetal alcohol effects
 - characterized by varying degrees of craniofacial dysmorphism, impaired prenatal and postnatal growth, central nervous system abnormalities, and cardiac defects
 - it also include congenital malformations, genitourinary defects, and learning disabilities

COCAINE ABUSE DURING PREGNANCY

- affect 1% to 5% of neonates
- associated with decreased uterine blood flow leading to poor fetal oxygenation and increased fetal blood pressure and heart rate.
- increased risk of spontaneous abortion, premature labor and delivery, placental abruption, low birth weight, SIDS, intrauterine growth retardation, low Apgar scores, meconium staining, fetal death, microcephaly, neurodevelopmental delay, and structural/congenital anomalies, especially involving the gastrointestinal and renal systems.⁸
- increased risk for meconium staining and non-reassuring fetal heart tracings
- is associated with an increased incidence of high maternal gravidity, poor prenatal care, and preterm birth

MARIJUANA USE DURING PREGNANCY

- greater than 25% of women in their reproductive years admitting to past or current marijuana use
- associated with few short-term or long-term effects on the exposed neonate and its risks are dose-dependent, with an increased incidence of intrauterine growth retardation and SIDS seen in the infants born to heavy users
- most beneficial as an *indicator of poly-substance abuse and lower socioeconomic status* that may influence both prenatal care and the home environment

SEDATIVE/HYPNOTIC USE DURING PREGNANCY

- Leads to physical dependency in the fetus characterized by the *neonatal abstinence/withdrawal syndrome*
- Include use of heroin/methadone, caffeine, cocaine, ethanol, marijuana, PCP, and nicotine
- NAS includes behavioral and autonomic nervous system dysfunction plus gastrointestinal, respiratory, and central nervous system abnormalities
- Women using sedatives/hypnotics during pregnancy may need to be hospitalized during detoxification because the risk for seizures and other central nervous system effects is relatively high

SCREENING FOR MATERNAL DRUG USE DURING PREGNANCY

- *Meconium and hair analyses* yielded the highest sensitivities for detecting perinatal use of opiates and cocaine
- Urine drug screens and substance abuse histories
- Biologic screening for substance abuse should be performed only with informed consent from the mother and for the purpose of treating the substance abuse disorder once identified

MANAGEMENT AND TREATMENT

- *Abstinence* - ultimate goal of the management and treatment of substance abuse during pregnancy
- Participating in prenatal care alone can improve the outcome of the substance abuse pregnancy and that ceasing substance use during the pregnancy can further decrease perinatal morbidity
- Common obstacles to treatment include poor social support systems, failure to identify substance abusers during pregnancy, inadequate financial resources, and fear of custody loss with admission to problems of substance abuse

WHO Recommendations on Substance Use in Pregnancy

Screening and brief interventions for hazardous and harmful substance use during pregnancy

- Health-care providers should ask all pregnant women about their use of alcohol and other substances (past and present) as early as possible in the pregnancy and at every antenatal visit
- Health-care providers should offer a brief intervention to all pregnant women using alcohol or drugs

Psychosocial interventions for substance use disorders in pregnancy

- Health-care providers managing pregnant or postpartum women with alcohol or other substance use disorders should offer comprehensive assessment, and individualized care.

Detoxification or quitting programmes for substance dependence in pregnancy

- Health-care providers should at the earliest opportunity advise pregnant women dependent on alcohol or drugs to cease their alcohol or drug use and offer, or refer to, detoxification services under medical supervision where necessary and applicable

Breastfeeding with maternal alcohol and/or substance dependence

- Mothers with substance use disorders should be encouraged to breastfeed unless the risks clearly outweigh the benefits
- Breastfeeding women using alcohol or drugs should be advised and supported to cease alcohol or drug use; however, substance use is not necessarily a contraindication to breastfeeding
- Skin-to-skin contact is important regardless of feeding choice and needs to be actively encouraged for the mother with a substance use disorder who is able to respond to her baby's needs.

Management of infants exposed to alcohol and other psychoactive substances

- Health-care facilities providing obstetric care should have a protocol in place for identifying, assessing, monitoring and intervening, using non-pharmacological and pharmacological methods, for neonates prenatally exposed to opioids
- An opioid should be used as initial treatment for an infant with neonatal opioid withdrawal syndrome if required
- If an infant has signs of a neonatal withdrawal syndrome due to withdrawal from sedatives or alcohol, or the substance the infant was exposed to is unknown, then phenobarbital may be a preferable initial treatment option
- All infants born to women with alcohol use disorders should be assessed for signs of fetal alcohol syndrome

REPUBLIC ACT. 10151

AN ACT ALLOWING THE EMPLOYMENT OF
NIGHT WORKERS

EMPLOYMENT OF NIGHT WORKERS

Art. 154. *Coverage* – This chapter shall apply to all persons, who shall be employed or permitted or suffered to work at night, except those employed in agriculture, stock raising, fishing, maritime transport and inland navigation, during a period of not less than seven (7) consecutive hours, including the interval from midnight to five o'clock in the morning, to be determined by the Secretary of Labor and Employment, after consulting the workers' representatives/labor organizations and employers.

“ **‘Night worker’** means any employed person whose work requires performance of a substantial number of hours of night work which exceeds a specified limit. This limit shall be fixed by the Secretary of Labor after consulting the workers' representatives/labor organizations and employers.”

Art. 158. *Women Night Workers.* – Measures shall be taken to ensure that an alternative to night work is available to women workers who shall otherwise be called upon to perform such work:

“(a) Before and after childbirth, for a period of at least sixteen (16) weeks, which shall be divided between the time and after childbirth;

“(b) For additional periods, in respect of which a medical certificate is produced stating that said additional periods are necessary for the health of the mother and child:

“(1) During pregnancy;

“(2) During a specified time beyond the period, after childbirth is fixed pursuant to subparagraph

(a) above, the length of which shall be determined by the DOLE after consulting the labor organizations and employers

“During the periods referred to in this article:

- “(i) A woman worker shall not be dismissed or given notice of dismissal, except for just or authorized causes provided for in the Code that are not connected with pregnancy, childbirth and childcare responsibilities.
- “(ii) A woman worker shall not lose the benefits regarding her status, seniority, and access to promotion which may attach to her regular night work position.

“Pregnant women and nursing mothers may be allowed to work at night only if a competent physician, other than the company physician, shall certify their fitness to render night work, and specify, in the case of pregnant employees, the period of the pregnancy that they can safely work.

“The measures referred to in this article may include transfer to day work where this is possible, the provision of social security benefits or an extension of maternity leave.

“The provisions of this article shall not have the effect of reducing the protection and benefits connected with maternity leave under existing laws.”

References

Up-to-Date

Wilson, J, Thorp, Jr., J, *Glob. libr. women's med.*, Substance Abuse in Pregnancy
(ISSN: 1756-2228) 2008; DOI 10.3843/GLOWM.1011

WHO: Substance Abuse in Pregnancy

<http://www.officialgazette.gov.ph/2011/06/21/republic-act-no-1015/>

THIS DAY IS
BEAUTIFUL
SO ARE YOU

Good Morning

