

## A Review on Pregnancy Complication and Its Treatment

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**ABSTRACT:-** Most of the women take either prescribed or over-the-counter medication during pregnancy. Pregnant women often make independent decisions about their treatment and require careful counseling that allows them to balance the risk of taking a drug against the risk of not taking a drug and leaving a medical condition untreated. Most drugs are safe in pregnancy but some have unproven safety and may adversely affect the growing fetus.

The safety profile of some of the medication may change according to the gestational age of the fetus. An estimated 10 % or more of the birth defects results from maternal drug exposure. The development of knowledge in understanding the use of drugs during pregnancy has been in stalemate in comparison to other areas of therapeutics, mainly due to difficulties in testing new products in pregnant women and paucity of good quality research.

### I. INTRODUCTION:-

Pregnancy is the beginning of new life. It starts with conception and continues through the fetus and finally ends at birth. It is not an illness. Pregnancy is a process, which results into the continuation of the species. Furthermore, pregnancy has a positive influence on the female organism, both physically and psychologically. During gestation, the woman reaches her full physical and mental potential.

lactation is called "off-label" use. Pregnancy, whether planned or a pleasant surprise, brings with it important concerns about prescription and over the counter (OTC) drugs. Not every medication poses a risk to unborn baby. However, some do. Effects of drug on pregnancy depends on four major stages i.e. pre-implantation stage, period of organogenesis, the second and third trimester, and a short delivery stage. During pregnancy the mother and fetus form a non-separable functional unit. Drugs can have harmful effects on the fetus at any time during pregnancy. It is important to remember this when prescribing medicine for

women of child bearing age. Counseling of women before a planned pregnancy should be carried out including discussion of risks associated with therapeutic agents. Medication during pregnancy is very important. So, caution should be taken while prescribing them to pregnant women.

The fetal concentrations of drugs can vary considerably compared to the maternal concentrations depending on the type and dosage of the drug, duration of treatment, and timing. Both plasma protein binding and hepatic metabolism in the fetus differs from those in the mother and depends on the stage of development of the fetus. The first trimester and the few weeks before delivery are the most vulnerable periods for the fetus: the former because of the early fetal development and the potential risk of malformations during fetal organogenesis (teratogenesis), the latter because of the risk of functional abnormalities and post-natal problems in the neonate due to exposure to a specific drug. Drugs given in pregnancy can adversely affect the fetus in many ways.

Anxiety about birth defects is a major parental concern during pregnancy. their patients often seek information about the potential teratogenicity of drugs that are taken by or prescribed for the pregnant woman. Because no drug is entirely without side effects, great caution should be taken while taking medications in pregnancy. The development of knowledge in understanding the use of drugs during pregnancy has been in stalemate in comparison to other areas of therapeutics, mainly due to difficulties in testing new products in pregnant women and paucity of good quality research.

Despite a growing awareness of the need to avoid drugs, pregnant women take many drugs. Drug use is an uncommon cause of birth defects, yet approximately 200,000 children (3-5 % of live births) are born with birth defects each year. Pregnancy induces significant changes in the functions of the body systems and in its fluid and tissue composition. It is helpful to consider how

these changes are likely to affect drug dosing and drug interactions in the pregnant women. The drugs that are contraindicated in pregnancy are tabulated in.

Drugs are classified in this way if they have been reported to cause side-effects in the infant, especially if the side-effects could be serious. These drugs are used only when they are really essential for the mother's treatment and when no safer alternative is available. Most drugs taken by the pregnant women can cross the placenta and expose the developing embryo and fetus to their pharmacologic and teratogenic effects. Critical factors affecting placental drug transfer and drug effects on the fetus include.

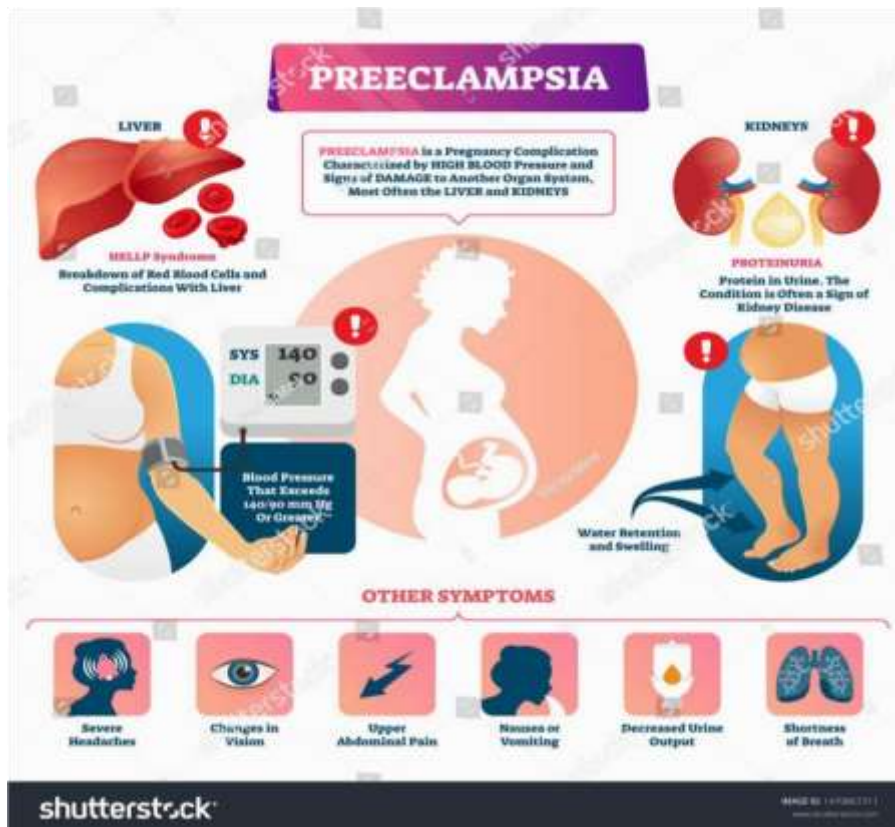
- The physiochemical properties of the drug.
- The rate at which the drug crosses the placenta and the amount of drug reaching the fetus.
- The duration of exposure to the drug.
- Distribution characteristic in different fetal tissue.
- The stage of placental and fetal development at the time of exposure to the drug.
- The effect of drugs in combination.

**Complications associated with Preeclampsia:-**

Fetal growth restriction or fetal death may result. Diffuse or multifocal vasospasm can result in maternal ischemia, eventually damaging multiple organs, particularly the brain, kidneys, and liver. Factors that may contribute to vasospasm include decreased prostacyclin (an endothelium-derived vasodilator), increased endothelin (an endothelium-derived vasoconstrictor), and increased soluble Flt-1 (a circulating receptor for vascular endothelial growth factor).

Women who have preeclampsia are at risk of a abruptio placentae in the current and in future pregnancies, possibly because both disorders are related to utero placental insufficiency. The coagulation system is activated, possibly secondary to endothelial cell dysfunction, leading to platelet activation.

The HELLP syndrome (hemolysis, elevated liver function tests, and low platelet count) develops in 10 to 20% of women with severe preeclampsia



**Treatment and Medications:-**

Preeclampsia has no cure except for delivery of the baby. However, delivery may not always be the best option at the time preeclampsia is diagnosed. The treatment that the patient receives depends on the severity (mild versus severe) of the associated symptoms and the stage of the pregnancy.

Close monitoring of the woman and her fetus will be needed. Tests for the mother might include blood and urine tests to see if the preeclampsia is progressing, such as tests to assess platelet counts, liver enzymes, kidney function, and urinary protein levels. Tests for the fetus might include ultrasound, heart rate monitoring, assessment of fetal growth, and amniotic fluid assessment.

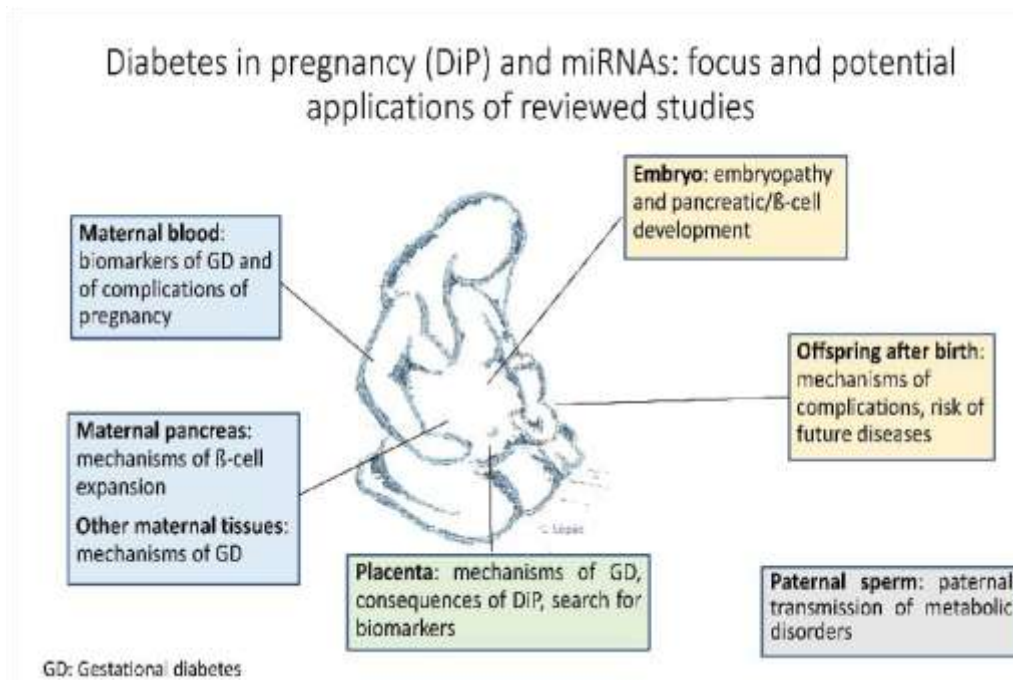
Anticonvulsive medication, such as magnesium sulfate, might be used to prevent a seizure. Some of the medications used for stroke include labetalol, nifedipine or methyldopa.

**Pregestational diabetes in pregnancy:-**

Alexis Shub, Martha Lappas Prenatal diagnosis 40 (9), 1092-1098, 2020 Diabetes is an increasingly common diagnosis among pregnant women. Pregestational diabetes is associated with an increase in many adverse pregnancy outcomes, which impact both on the woman and her fetus.

The models of pregnancy care for women with diabetes are based largely on observational data or consensus opinion. Strategies for aneuploidy screening and monitoring for fetal well-being should be modified in women with diabetes. There is an increasing understanding of the mechanisms by which congenital anomalies and disorders of fetal growth occur, involving epigenetic modifications, changes in gene expression in critical developmental pathways, and oxidative stress.

This knowledge may lead to pathways for improved care for these high-risk pregnancies



**Obesity and pregnancy:-**

Florence Galtier-Dereure, Catherine Boegner, Jacques Bringer The American journal of clinical nutrition 71 (5), 1242S-1248S, 2000 The prevalence of obesity is currently rising in developed countries, making pregravid overweight one of the most common high risk obstetric situations. Although the designs and populations of

published studies vary widely, most authors agree that pregravid overweight increases maternal and fetal morbidity.

Even moderate overweight is a risk factor for gestational diabetes and hypertensive disorders of pregnancy, and the risk is higher in subjects with overt obesity. Compared with normal weight, maternal overweight is related to a higher risk of

cesarean deliveries and a higher incidence of anesthetic and postoperative complications in these deliveries.

Low Apgar scores, macrosomia, and neural tube defects are more frequent in infants of obese mothers than in infants of normal-weight mothers. The regional distribution of fat modulates the effects of weight on carbohydrate tolerance, hemodynamic adaptation, and fetal size. Maternal obesity increases perinatal mortality. Long-term complications include worsening of maternal obesity and development of obesity in the infant.

The average cost of hospital prenatal and postnatal care is higher for overweight mothers than for normal-weight mothers, and infants of overweight mothers require admission to neonatal intensive care units more often than do infants of normal-weight mothers. Preconception counseling, careful prenatal management, tight monitoring of weight gain, and long-term follow-up could minimize the social and economic consequences of pregnancies in overweight women.

#### **Effect of treatment of gestational diabetes mellitus on pregnancy outcomes:-**

We conducted a randomized clinical trial to determine whether treatment of women with gestational diabetes mellitus reduced the risk of perinatal complications.

**Methods** We randomly assigned women between 24 and 34 weeks' gestation who had gestational diabetes to receive dietary advice, blood glucose monitoring, and insulin therapy as needed (the intervention group) or routine care. Primary outcomes included serious perinatal complications (defined as death, shoulder dystocia, bone fracture, and nerve palsy), admission to the neonatal nursery, jaundice requiring phototherapy, induction of labor, cesarean birth, and maternal anxiety, depression, Obesity and pregnancy: complications and is currently rising in developed countries, making pregravid overweight one of the most common high-risk obstetric situations.

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Vitamins and minerals, referred to collectively as micronutrients, have important influences on the health of pregnant women and the growing fetus. Iron deficiency results in anemia which may increase the risk of death from hemorrhage during delivery, but its effects on fetal development and birth outcomes is still unclear. Folic acid deficiency can lead to hematological consequences, pregnancy complications and congenital malformations, but again the association with other birth outcomes is equivocal.

**Complication Of Anemia:-**

Zinc deficiency has been associated in some, but not all studies with complications of pregnancy and delivery, as well as with growth



retardation, congenital abnormalities and retarded neurobehavioral and immunological development in the fetus. Iodine deficiency during pregnancy results in cretinism and possible fetal wastage and preterm delivery. Deficiency of other minerals such as magnesium, selenium, copper, and calcium have also been associated with complications of pregnancy, childbirth or fetal development. Deficiencies of vitamins other than folate may likewise be related to such complications; and vitamin A or  $\beta$ -carotene supplements in pregnancy reduced maternal mortality by 50 % in a controlled trial in Nepal.

Additional research is need on the prevalence of such deficiencies and their consequences and on cost-effective public health interventions for their control. Diagnosis and treatment of iron-deficiency anaemia during pregnancy and postpartum Iron-deficiency anaemia during pregnancy and postpartum occurs frequently and may lead to severe maternal and foetal complications.

New treatment regimens include intravenous iron administration in particular clinical situations. The aim of the study was to determine optimal diagnostic and therapeutic approaches to iron-deficiency anaemia during pregnancy and postpartum. Methods The evidence from data available from published studies and recommendations regarding diagnosis and treatment were reviewed. As conclusions, recommendations are given by an expert panel.

#### **Potential health problems in premature infants:-**

The earlier a baby is born, the more likely they are to have medical problems. A premature infant may show these signs soon after birth

#### **Complication:-**

- trouble breathing
- low weight
- low body fat
- inability to maintain a constant body temperature
- less activity than normal
- movement and coordination problems
- difficulties with feeding
- abnormally pale or yellow skin
- pulmonary hemorrhage, or bleeding in the lungs
- hypoglycemia, or low blood sugar
- neonatal sepsis, a bacterial blood infection
- pneumonia, an infection and inflammation of the lungs

- patent ductus arteriosus, an unclosed hole in the main blood vessel of the heart
- anemia, a lack of red blood cells for transporting oxygen throughout the body
- neonatal respiratory distress syndrome, a breathing disorder caused by underdeveloped lungs
- Some of these problems can be resolved through proper critical care for the newborn.

Others can result in long-term disability or illness.

- Doctors perform various tests on premature infants soon after childbirth. These tests help reduce the risk of complications. Doctors also monitor infants continuously during their hospital stay.

#### **Treating a premature infant:-**

Doctors often try to prevent a premature birth by giving the mother certain medications that can delay delivery. If premature labor can't be stopped or a baby needs to be delivered prematurely, doctors then prepare for a high-risk birth. The mother may need to go to a hospital that has a neonatal intensive care unit (NICU).

This will ensure the infant receives immediate care after birth. In the first few days and weeks of the premature baby's life, hospital care focuses on supporting vital organ development. The newborn may be kept in a temperature-controlled incubator. Monitoring equipment tracks the baby's heart rate, breathing, and blood oxygen levels.

It may be weeks or months before the baby is able to live without medical support. Many premature babies can't eat by mouth because they can't yet coordinate sucking and swallowing. These babies are fed vital nutrients either intravenously or using a tube inserted through the nose or mouth and into the stomach. Once the baby is strong enough to suck and swallow, breast-feeding or bottle-feeding is usually possible.

#### **Miscarriage Treatments:-**

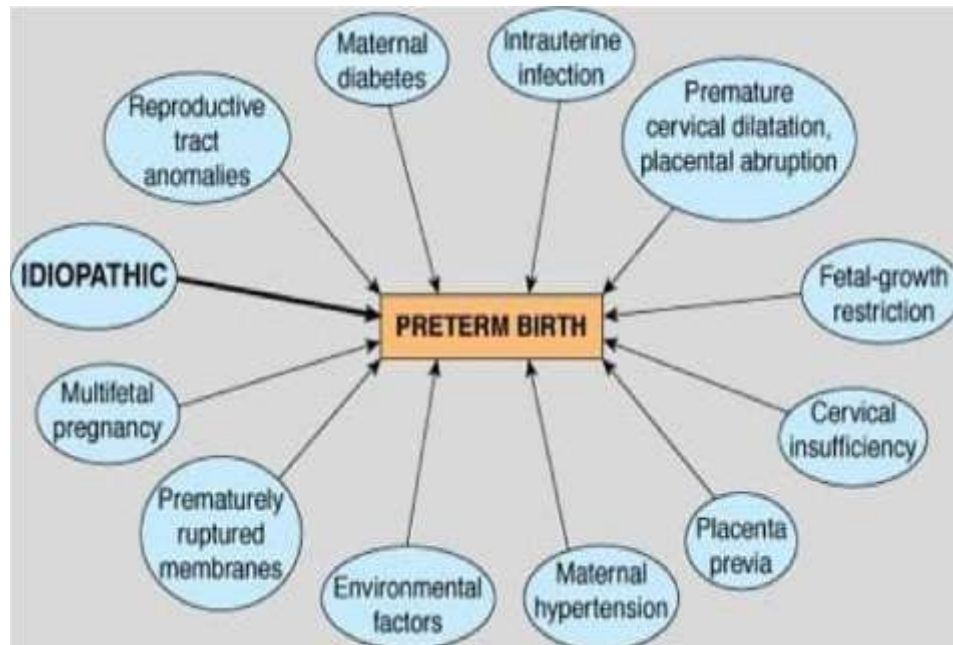
At least 85% of women who have miscarriages have subsequent normal pregnancies and births. Having a miscarriage does not necessarily mean you have a fertility problem. On the other hand, about 1%-2% of women may have repeated miscarriages (three or more). Some researchers believe this is related to an autoimmune response. If the miscarriage is complete and your uterus is empty, you probably won't need further treatment. Sometimes all the tissue doesn't come out. If that happens, your doctor might do a dilation

and curettage (D&C) procedure.

They'll dilate your cervix and gently remove any remaining tissue. There are also medications you can take that cause any tissue left in your uterus to leave your body. This may be a better option if you want to avoid surgery. When the bleeding stops, you should be able to go back to your normal activities.

If your cervix dilated on its own but

you're still pregnant, you could have a condition known as incompetent cervix. Your doctor might do a procedure to close it called cerclage. If your blood type is Rh negative, the doctor may give you a blood product called Rh immune globulin (Rhogam). This prevents you from developing antibodies that could harm your baby or any future pregnancies



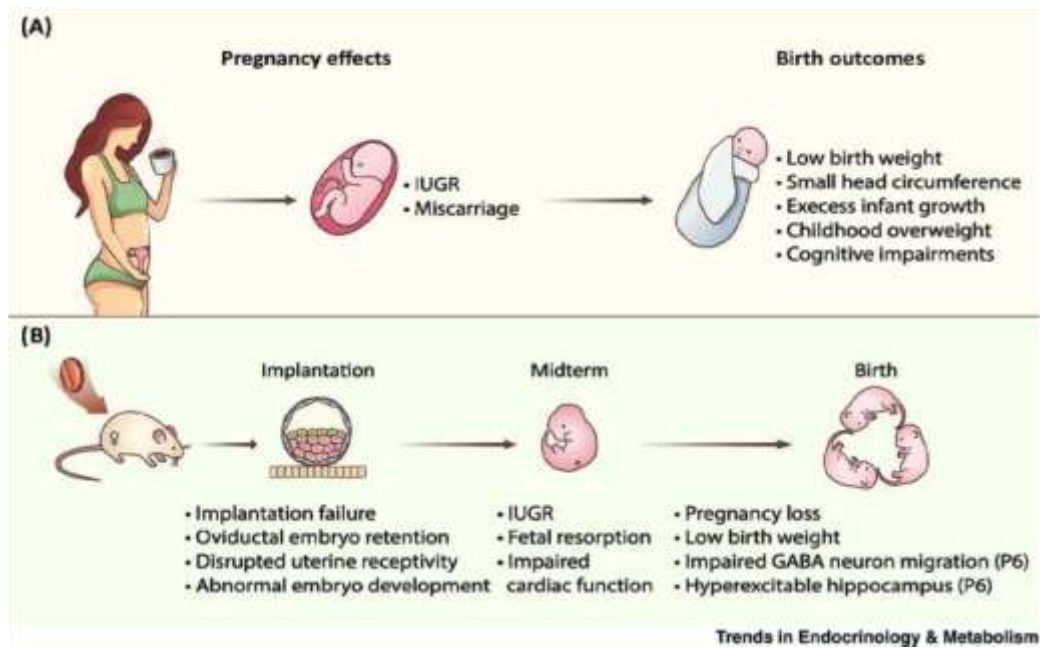
**Miscarriage Causes and Risk Factors:-**

Most miscarriages happen when the unborn baby has fatal genetic problems. Usually, these problems are not related to the mother.

**Infection:-**

- Medical conditions in the mother, such as diabetes or thyroid disease
- Hormone problems

- Immune system responses
- Physical problems in the mother
- Uterine abnormalities
- Smoking
- Drinking alcohol
- Using street drugs
- Exposure to radiation or toxic substances
- A woman has a higher risk of miscarriage if they:



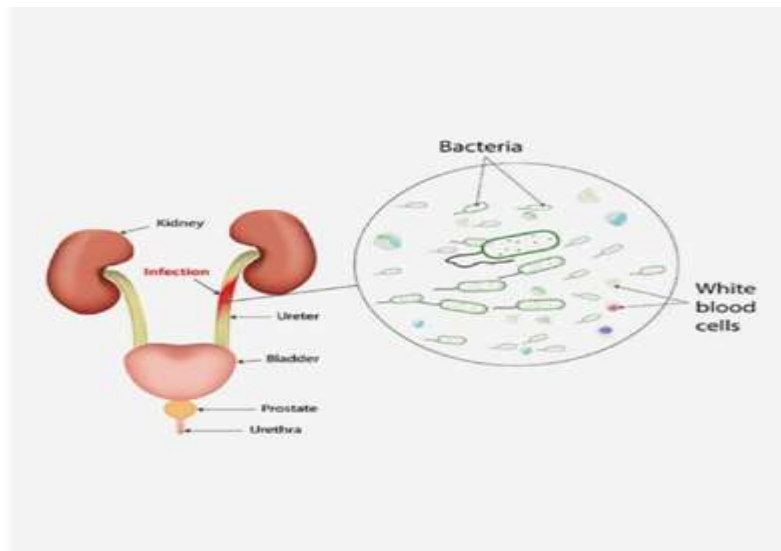
### Exploring the relationship between periodontal disease and pregnancy complications:-

Increasing evidence suggests that maternal gingivitis and periodontitis may be a risk factor for preterm birth and other adverse pregnancy outcomes. To clarify the possible mechanisms behind the association between periodontal disease and preterm delivery, the authors reviewed studies of the effect of infection with periodontal pathogens in animal models on pregnancy outcomes including fetal growth, placental structural abnormalities and neonatal health. After the first report, in 1996, of a potential. Urinary tract infection as a preventable cause of pregnancy complications: opportunities, challenges, and a global call to action

The urinary tract is a common site of infection in humans. During pregnancy, urinary tract infection (UTI) is associated with increased risks of maternal and neonatal morbidity and mortality, even when the infection is asymptomatic. By mapping available rates of UTI in pregnancy across different populations, we emphasize this as a

problem of global significance. Many countries with high rates of preterm birth and neonatal mortality also have rates of UTI in pregnancy that exceed rates seen in more developed countries. A global analysis of the etiologies of UTI revealed familiar culprits as well as emerging threats. Screening and treatment of UTI have improved birth outcomes in several more developed countries and would likely improve maternal and neonatal health worldwide. However, challenges of implementation in resource-poor settings must be overcome. We review the nature of the barriers occurring at each step of the screening and treatment pipeline and highlight steps necessary to overcome these obstacles.

It is our hope that the information compiled here will increase awareness of the global significance of UTI in maternal and neonatal health and embolden governments, nongovernmental organizations, and researchers to do their part to make urine screening and UTI treatment a reality for all pregnant women.



#### Infection with herpes virus is treated with acyclovir:-

This can also be used to prevent an outbreak during pregnancy. □ Prescription Medicines □ Bacterial vaginosis.

- Group B streptococcus (GBS) □ Listeriosis.
- Urinary tract infections (UTIs)
- Sexually transmitted infections (STIs), such as chlamydia, syphilis, and gonorrhea.

#### IUGR Complication:-

This review discusses available literature on the diagnosis and management of intrauterine growth restriction (IUGR) in women with type 1 diabetes. IUGR is diagnosed when ultrasound-estimated fetal weight is below the 10th percentile for gestational age. IUGR diagnosis implies a pathologic process behind low fetal weight. IUGR in pregnancy complicated by type 1 diabetes is usually caused by placental dysfunction related to maternal vasculopathy.

Prevention of IUGR should ideally start before pregnancy. Strict glycemic control and intensive treatment of nephropathy and hypertension are essential. Low-dose aspirin initiated before 16 gestational weeks can also reduce IUGR risk in women with vasculopathy. Umbilical and uterine artery Doppler studies can

guide diagnosis and surveillance of fetuses with IUGR. Decisions regarding the timing of delivery should be based on assessment of umbilical artery Doppler. The risk of prematurity and impaired fetal lung maturation should always be considered, especially in fetuses younger than 32 weeks.

#### Treatment:-

Intrauterine fetal growth restriction (IUGR), the main cause of premature delivery and fetal mortality, has been suggested to involve oxidative stress.

We found elevated values of indices of oxidative stress in the blood serum of pregnant women with IUGR increased levels of malondialdehyde and 4-hydroxyalkenals, decreased activity of  $\alpha$ -1-antitrypsin and decreased total antioxidant capacity of the serum, with respect to healthy pregnancy.

Twenty day treatment with 3 g of l-arginine and 75 mg of acetylsalicylic acid daily resulted in a decrease of the level of lipid peroxidation products and augmentation of  $\alpha$ -1-antitrypsin activity.

This study confirms the occurrence of oxidative stress in IUGR and demonstrates the beneficial effect of arginine/acetylsalicylic acid therapy in reducing oxidative stress in IUGR





#### Abortion:-

INDIA was a pioneer in legalising induced abortion under the Medical Termination of Pregnancy (MTP) Act of 1971. Under the Act a woman can legally have an abortion up to 20 weeks of pregnancy if the pregnancy carries the risk of grave physical injury, endangers her mental health, if it results from contraceptive failure in a married woman, or from rape, or is likely to result in the birth of a child with physical or mental abnormalities. No spousal consent is required. According to the Ministry of Health and Family Welfare, in 1996–97 465,705 abortions were reported nationally.<sup>1</sup> Against that, however, an estimated 6.7 million unreported abortions are performed each year by providers working outside registered and government recognised institutions, often by untrained persons working in unhygienic conditions.

The risks faced by women who are forced to use unsafe alternatives is tremendous; maternal deaths worldwide are due to unsafe abortions.<sup>3</sup> In India, the proportion of maternal deaths due to unsafe abortion was estimated to be 13% in 1995.<sup>4</sup> Despite an intensive national campaign for safe motherhood and attention to unsafe abortion in the 1960s and early 70s, which led to legalisation of abortion, public discussion in India on abortion-related morbidity and mortality has been practically absent since. Limited research data have led some researchers to conclude that “morbidity and

mortality from unsafe abortion remain a serious problem for Indian women 28 years after abortion was legalised in India”.<sup>5</sup> Given this scenario, in the past decade women’s health advocates and other health groups in India have drawn the attention of policymakers and administrators to the following issues in order to improve the availability, safety and use of abortion services. There are an inadequate number of safe abortion facilities within reach of the majority of poor women in both rural and urban areas.

There is a dearth of medically approved abortion providers and registered facilities. Post-abortion family planning counselling and services are inadequate. Unsafe abortion is often not perceived as a women’s health issue. There is a growing trend in some parts of the country towards sex-selective abortion. The Government has developed a “do nothing” attitude towards unsafe abortions because they help to keep the population growth rate down in place of use of contraception for spacing births. In the post-Cairo period, with the introduction of the more comprehensive Reproductive and Child Health (RCH) Programme, in place of unlinked safe motherhood, child survival and family planning programmes, abortion-related mortality and morbidity have received greater attention.

Donors supporting the Government’s efforts (UNFPA, WHO, World Bank, European Community, SIDA, DANIDA and DFID)

have high-lighted the importance of looking at abortion related mortality and morbidity as a part of the RCH package, and gave women's health advocates an opportunity to re-establish the importance of making abortion safe. Although the climate seems to be favourable, the lack of reliable information and wide regional and rural-urban differences have made it difficult to develop strategic interventions. The Abortion Assessment Project – India (AAP India) sought to fill this information gap by gathering a range of evidence on all facets of induced abortion. The project was an all-India, multicentre research project, launched in August 2000 and managed jointly by the Centre for Enquiry into Health and Allied Themes (CEHAT), Mumbai, and Health Watch, New Delhi.

This article is an attempt to synthesise the findings of this project, whose overall objectives were to: Review government policy on abortion care, and the policy and programme environment in the country.<sup>6</sup> Assess and analyse abortion services in six states in both the public and private sectors including organisation, management, facilities, technology, registration, training, certification and utilisation. Study users' perspectives, particularly women's perceptions of quality, availability, accessibility (including barriers to utilisation), confidentiality, informed consent, post-abortion contraception and attitude of service providers.<sup>8–</sup>

10 Study the socio-economic factors that influence decision-making, including changes in social values, male responsibility, family dynamics and decision-making.<sup>8–10</sup> Estimate the rate of abortions, extent of morbidity and mortality, causes of spontaneous abortions and reasons for induced abortions.<sup>9,10</sup> Document related cost and finance issues.<sup>9,10</sup> Disseminate the information widely and develop an advocacy strategy on issues of concern in the context of the reproductive rights of women. To achieve these objectives, a range of studies were undertaken, covering a wide geographic area, with five main components

A policy review<sup>6</sup> and a number of commissioned working papers<sup>5,11–18</sup> that focused on the dynamics of the MTP Act in practice and involved consultation with a wide range of stakeholders to identify lacunae and concerns about abortion policy. Multicentre facility surveys in six states, Kerala, Rajasthan, Haryana, Madhya Pradesh, Orissa and Mizoram.<sup>19–24</sup> Eight qualitative studies on decision-making pathways, reasons for seeking abortion, intergenerational differences in abortion-seeking behaviour, access and provider selection, quality of care, perspectives of providers, sex selective abortions and cultural dimensions, to complement the six multicentre facility surveys.<sup>8</sup> These were carried out by researchers,



## II. CONCLUSIONS:-

At the outset, the focus of this study was outreach for prenatal care. The Committee's charge

was to determine which outreach techniques most effectively draw women into care early in pregnancy and maintain their participation until

delivery. For this study, outreach was defined to include various ways of identifying pregnant women and linking them to prenatal care and services that offer support and assistance to help women remain in care once enrolled (social support). Early deliberations, however, made it clear that outreach could not be studied in isolation and that the Committee's inquiries had to cover the larger maternity care system\* within which outreach occurs.

At least four considerations led to this expanded scope of study. First, many projects conventionally labeled outreach (that is, programs of casefinding or social support or both) were found, on closer examination, to be actively involved in such problem-solving activities as trying to help women arrange financing for an in-hospital delivery—activities that are not included in conventional understandings of outreach. Second, the goals and content of outreach programs are so heavily influenced by the larger systems within which they operate that it would have been difficult, if not useless, to analyze them apart from their surrounding environment. Third, a variety of approaches other than outreach can accomplish the goals of earlier registration in prenatal care and improved continuation in care.

These activities include reducing financial barriers to care, making certain that system capacity is adequate, and improving the policies and practices that shape prenatal services at the delivery site. Finally, the Committee reviewed the larger maternity care system because it makes little sense to study ways to draw women into care if the system they enter cannot, or will not, be responsive to their needs. Because of this expanded scope of study, many of the recommendations contained in this chapter are directed at the maternity care system as a whole rather than only its outreach component, although specific recommendations on outreach are presented.

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