A REVIEW ON RISK FACTORS DURING 20'S VS 30'S PREGNANCY

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Abstract
The first trimester is the most critical stage of development during which the rudiments of all the major organ systems appear. The second trimester is characterized by the nearly complete development of organ systems. The third trimester represents a period of rapid fetal growth. The risks related to pregnancy in those over 35 years, old, especially primiparity. The higher rates of fertility (age specific fertility rate) were seen in women from 25-29 years or from 30-34 years29. Women are still considered to be the sole responsible for pregnancy, while men continue being absolved or omitted from their participation in the reproductive even. One of the most common risk factors for a high risk pregnancy is the age of the mother. Women with age under 17 or over 35 are at greater risk of complications than those between their late teens and early 30s35. It is advantageous to diagnosis the pregnancy as promptly as possible when a sexually active woman misses a menstrual period or has symptoms suggestively of pregnancy. In the event of Desired Pregnancy, prenatal care can begin early and potentially harmful medications and activities such as drug and alcohol use, smoking and occupational chemical exposed can be halted.

Key Words: Pregnancy, Risk Factors, Menstrual Period and Fertility.

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INTRODUCTION
Pregnancy is a sequence of events that begins with fertilization, proceeds to implantation, embryonic development, and the fetal development, and normally ends with birth about 38 weeks later, or 40 weeks after the last menstrual period. From fertilization through the eight week of development, a stage called the embryonic period, the developing human is called an embryo. Embryology is the study of development from the fertilized egg through the 8th week. The foet al period begins at 9th week and continues until birth, during this time, the developing human is called a foetus. One sperm and a secondary oocyte have developed through meiosis and matur ation, and the sperm have been deposited in the vagina, pregnancy can occur. Fetal development, it is divided into three periods of three calendar months each, called trimesters. The first trimester is the most critical stage of development during which the rudiments of all the major organ systems appear. The second trimester is characterized by the nearly complete development of organ systems. The third trimester represents a period of rapid fetal growth. Pregnancy is largely unknown among women with chronic kidney disease (CKD) and end stage renal disease (ESRD). Incidence of conception among dialysis patients ranges from 1% - 7%. If a pregnant woman with chronic renal insufficiency possesi s a higher maternal and fetal morbidity. Although, pregnancy in women with chronic renal insufficiency is considered a largely high risk pregnancy. Adolescent pregnancy is defined as a pregnancy in girls 10 – 19 years of age. It is estimated that about 16 millions girls 15-19 years old give birth each year, contributing nearly 11% of all birth world wide. More than 90% of these births occur in low and middle – income countries. The median age of women at first sexual intercourse is now 16.6 years. Approximately 90% of teenage pregnancies in the developing world are of girls who are married, owing to their high exposure to sex and pressure to conceive quickly after marriage. Studies have shown that teenage pregnancy has poor maternal and prenatal health outcomes. Complications during pregnancy and childbirth are the second cause of death for 15 – 19 years old girls globally. Every year, some 3 millions girls aged 15-19 undergo unsafe abortions. Babies born to adolescent mothers face a substantially high risk of dying. The risk of having a baby with down syndrome exponentially increases after 36 years of maternal age. On one side scientific literature more and more clearly says that the less risky range of maternal age to bear babies is 20-30 years and on the other side, People perceive they should postponed pregnancy. Gestational diabetes mellitus (GDM) was historically defined as "Any degree of glucose intolerance with onset or first recognition during pregnancy" whatever the treatment course and postpartum evolution. The risks related to pregnancy in those over 35 years, old, especially primiparity. The higher rates of fertility (age specific fertility rate) were seen in women from 25-29 years or from 30-34 years. Women are still considered to be the sole responsible for pregnancy, while men continue being absolved or omitted from their participation in the reproductive even.
COMMON RISK FACTORS

One of the most common risk factors for a high risk pregnancy is the age of the mother. Women with age under 17 or over 35 are at greater risk of complications than those between their late teens and early 30s.35

1. RISK FACTORS IN 20’S

Women under the age of 20 have a significantly higher risk of serious medical complications related to pregnancy than those over 20.33 Even if you are healthy when you become pregnant, it is possible to develop or be diagnosed with problems during pregnancy that can affect you and your baby.35 Pregnant teens are more likely to develop pregnancy related high blood pressure and anemia (lack of healthy red blood cells) and to go through preterm (early) labor and delivery than women who are older.34 Teens are also more likely to not know they have sexually transmitted infection (STI). Some STIs can cause problems with the pregnancy or with the baby.36 Teens may be less likely to get prenatal care or to keep prenatal appointments.34 Prenatal care is important because it allows health care providers to evaluate, identify, and treat risks, such as counseling teens not to take certain medications during pregnancy, some times before these risks become problems.39

Teenage mothers are more likely to:

- Deliver prematurely
- Have a baby with low birth weight
- Experience pregnancy induced hypertension
- Develop preeclampsia

Some risk factors connected to young age include the following:

- Under developed pelvis: Young women bodies are still growing and changing. An under developed pelvis can lead to difficulties during child birth.
- Nutritional deficiencies: Young women are more likely to have poor eating habits. Nutritional deficiency can lead to extra strain on the body that causes more complications for both the mother and child.
- High blood pressure: Developing high blood pressure in pregnancy can trigger premature labor. This can lead to premature or under weight babies who require specialized care to survive.37,38

2. RISK FACTORS IN 30’s:

As you age your chances of conceiving begin to decline. An older woman who becomes pregnant is also less likely to have a problem- free pregnancy.37,38 Older first time mothers have normal pregnancies, but research shows that older women are at high risk for certain problems than younger women including:

- Pregnancy related high blood pressure (called Gestational hypertension) and diabetes (called gestational diabetes) 43.
- Pregnancy loss 42.
- Ectopic pregnancy (when the embryo attaches itself outside the uterus), a condition that can be life threatening.43

- Cesarean (surgical) delivery.
- Delivery complications, such as excessive bleeding.
- Prolonged labor (lasting more than 20 hours).
- Labor that does not advance.
- Genetic disorders such as Down syndrome, in the baby.41
- Decline in fertility.
- Still birth 40.
- Preeclampsia (high blood pressure, urinary protein and swelling) 35.

PRECAUTIONS DURING PREGNANCY

- It is advantageous to diagnosis the pregnancy as promptly as possible when a sexually active woman misses a menstrual period or has symptoms suggestively of pregnancy.
- In the event of Desired Pregnancy, prenatal care can begin early and potentially harmful medications and activities such as drug and alcohol use, smoking and occupational chemical exposed can be halted.
- In the event of unwanted pregnancy, counseling about adoption or termination of pregnancy can be provided at an early stage.44,45

A. Prenatal visits

It should be begin early and maintain a schedule of regular prenatal visits:

- 0-28 weeks = Every 4 weeks
- 28-36 weeks = Every 2 weeks /fortnight
- >36 weeks = Weekly.

B. Diet

- Advised to eat balanced diet.
- Prenatal vitamins with Iron and Folic Acid should be prescribed.
- Supplements that are not specified for pregnant women should be avoided as they may contain dangerous amounts of harmful vitamins.
- Caffeine (i.e., Coffee, Tea or Caffeinated cola drinks) should be decreased to 0-1 cup.
- She should be encouraged to eat fresh fruits and veggies and advised to avoid raw meat and fish (they contain mercury).

C. Medication

Only prescribed / Authorized by obstetricians should be taken.

Teratogenic / Fototoxic drugs

<table>
<thead>
<tr>
<th>Ace inhibitors</th>
<th>Alcohol</th>
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<tbody>
<tr>
<td>Anti epileptics</td>
<td>Benzodiazepiones</td>
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<tr>
<td>Chloramphenicol</td>
<td>Estrogens</td>
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<td>Griseofulvin</td>
<td>Isotrenoin</td>
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<td>Methotrexate</td>
<td>Mesoprostal</td>
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<td>NSAIDs</td>
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<td>Reserpine</td>
<td>SSRIs</td>
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<td>Sulfad drugs</td>
<td>Tetracyclines</td>
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<td>Tobacco</td>
<td>Trimethoprim</td>
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<tr>
<td>Warfarin</td>
<td>Other anti coagulants</td>
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</tbody>
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D. Radiography & Noxious Exposures
- Only prescribed or Authorized radiography should be performed
- Abdominal shielding should be used whenever possible.
- Excessive heat in hot tubes should be avoided.
- Patient should be told to avoid handling cat feces/cat litter and to wear gloves when gardening to avoid infection with toxoplasmin.

E. Physical activity and Rest
- Regular exercise can be continued at a mild level.
- Weight lifting, hazardous exercises or new athletic training programs should be avoided.
- Patient should be encouraged to obtain adequate rest daily.

F. Nutrition in pregnancy
Recommendations regarding the weight gain in pregnancy. It should be based on BMI.

<table>
<thead>
<tr>
<th>WOMEN'S BMI</th>
<th>TOTAL WEIGHT GAIN</th>
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<tbody>
<tr>
<td>Normal:</td>
<td>11.3-15.9 kgs</td>
</tr>
<tr>
<td>Over weight</td>
<td>6.8-11.3kgs</td>
</tr>
<tr>
<td>Obesity/obese women:</td>
<td>5-9.1kgs</td>
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</tbody>
</table>

- Excessive weight gain has been associated with increased birth weight and as well as post partum retention.
- Significantly low weight gain leads to low birth weight.
- Calcium=1200mg/day @pregnant met with milk and milk products, veggies, soya beans, corn and calcium carbonate supplements.
- Iron =30-60mg
- Folic Acid=0.5-0.8mg [44,45].

Post conception
Early prenatal care & scheduled frequent office visits. Empiric sex steroid hormone therapy should be done [44,46].

3. Ectopic pregnancy
No intrauterine pregnancy on trans vaginal ultra sound and adrenal mass by clinical examination or ultra sound. About 98% of ectopic pregnancies are tubular and other like pentoneum /Abdominal viscera, ovaries and cervix.

Treatment
a) Non pharmacological treatment
1. Surgical treatment is definitive, initial surgery is diagnostic laparoscopy, it depends on the pregnancy.
2. Salpingostomy with removal size of ectopic of Ectopic pregnancy or complete salpingectomy can usually performed [44,46].

b) Pharmacological treatment:
1. For patients with normal LFT&RFT @ Methotrexate 50mg/ml²M, But it is contra indicated in unstable patients.
2. Iron therapy for anemia may be necessary during convalescence [44,49].
3. Rho (D) immunoglobulin 300mcg should be given to Rh –ve patients.
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3. Preeclampsia- Eclampsia
The presence of newly elevated BP (140/90 mm of Hg) and proteinuria (0.3 g in 24 hours) during pregnancy (> 20 weeks) is called preeclampsia.

SEVERE PREECLAMPSIA
Associated with
- kidney injury,
- thrombocytopenia,
- HELLP, (hemolysis, elevated liver enzymes, low platelets),
• pulmonary edema and
• Changes in vision or headache.

ECLAMPSIA
Seizures in patient with evidence of preeclampsia.

Treatment for preeclampsia:

1) Non pharmacological treatment
   a) In clinical studies, the dietary changes, diuretics have not been continued to be useful.
   b) The only cure is in delivery of the foetus at a time as favorable as possible for its survival.
   c) However, when a women is clearly suffering with a preeclampsia, delivery should not be delayed for fetal lung maturation or administration of corticoids
   d) The method of delivery is determined by the maternal and fetal status.
   e) Vaginal delivery is performed. Because, it has less blood loss than C-section.

2) Pharmacological treatment
   a) Corticosteroids: Betamethasone 12mg/day IM or Dexamethasone 6mg @ 12 hours IM for 4 doses

Treatment for Eclampsia

1) Emergent care
   a) If the patient is convulsing. To stop the seizures
      1<sup>st</sup> line: Magnesium sulfate@4 – 6 gms IV bolus (or) Lorazepam 2 – 4 mg @ 4 mins.
      2<sup>nd</sup> line: Calcium gluconate@1gm IV for 2mins
   b) Magenese sulfate IV 4 – 6 gm @ 15-20 mins for seizure prophylaxis
   c) To decrease blood pressure – Labetalol 10 – 20 mg IV @ every 20 min

3) Delivery
   a) Vaginal delivery is preferred.
   b) To induce labor – Oxytocin given IV and titrated to a dose that results in adequate contractions.
   c) C-section with regional/general anesthesia in acceptable for the usual obstetric indication

4) Pre term Labor
   a) It is defined as delivery prior to 37 weeks of gestation and spontaneous preterm labor with or without premature rupture of the foetal membranes in responsible for at least 2/3 of all preterm births.

Treatment
A single short course of corticosteroids should be administered to promote foetal lung maturity and also to reduce respiratory distress syndrome, ICH and even death in preterm infants.

Rx
   a) Betamethasone 12 mg/day IM OD (or)
   b) Dexamethasone 6mg IM BD

TOCOLYTIC AGENTS
To initial management of preterm labor and may provide sufficient prolongation of pregnancy to administer a course of corticosteroids

Rx
   a) Magnesium sulfate@ 4 – 6gms IV Bolus followed by 2g/h infusion.
   b) Beta adrenergic drug: Terbutaline 2.5 mcg/min IV infusion (or) 250 mcg subcutaneous injection.
   c) Nifedipine 20 mg P/O QID + Indomethacin 25 mg / 50 mg P/O QID @ up to 48 hrs 44,51.

5. Third – trimester bleeding
5–10% of women have vaginal bleeding in late pregnancy.

Placental cause: Placenta previa, placental abruption, vasa previa.
Non placental cause: Labor, infection, disorders of lower genital tract, systemic disease

Treatment:
A. General measures: Anti – D Immunoglobulin may be required for women with Rh –ve transfusion of blood for hypovolemia.
B. Morbidly adherent placenta: After delivery of the infant, the morbidly adherent placenta doesn’t separate normally, and the bleeding that results can be torrential emergency hysterectomy is usually required to stop the hemorrhage44,52.

6. Gestational diabetes mellitus:
Gestational diabetes mellitus is abnormal glucose tolerance in pregnancy and is generally believed to be an exaggeration of pregnancy induced physiological changes in carbohydrates metabolism.

Diagnosis
The gestational diabetes mellitus is made when 2 or more of the following venous plasma concentration are met or exceeded.

   Fasting: 95 mg / dl
   Post Prandial (1 hr): 180 mg/dl
   (2 hr):155 mg/dl
   (3 hr): 140 mg/dl

Treatment:
1. Non Pharmacological Treatment
   Early Nutritional Counseling
   a) Regular simple exercises.
   b) Sugar free diet.
   c) Portion control with adequate nutritional intake.

2. Pharmacological Treatment
   1<sup>st</sup> line: oral hypoglycemic agents
   Rx
      a) Glyburide.
      b) Metformin.
   2<sup>nd</sup> line: Insulin Lyspro, Insulin Aspart.
CONCLUSION

"Prevention is better than cure" is the moral. On one side scientific literature more and more clearly says that "the less risky range of maternal age to bear babies is 20 – 30 years”. As per our study, "the best age to conceive is late 20 and early 30." Early diagnosis plays a major role in the better outcome. On the other side, people perceive they should postpone pregnancy. While twin pregnancy is associated with increased risk for most adverse perinatal outcomes, this analysis did not find advanced maternal age to be an additional risk factor for foetal death and infant death. Preterm birth risk was relatively low for women in their late 30s. Risks for adverse outcomes were higher among older women. Further research is required to improve outcomes for this demographic group. Results confirm previous reports that women conceiving through ART may have a qualitatively different experience of pregnancy with higher pregnancy-specific anxiety juxtaposed with more intense maternal – foetal attachment and lower levels of depression and general anxiety symptoms. It is also important to acknowledge that this study has assessed well being only in those women who successfully achieved a pregnancy that survived until the third trimester. The amount of time pregnant women spend in moderate vigorous physical activity or volitional exercise varies drastically depending upon what guidelines are used. Previous reports regarding the prevalence of physical activity during pregnancy have ranged from as low as 3% to as high as 78%. The large range is due in part to the multiple different guidelines that have been used in these studies and the interpretation of these guidelines (e.g., accumulated activity and activity in bouts).

REFERENCES

9. O. Ayuba Gam : Outcome of teenage pregnancy in the Niger Delta of nigena
19. Carlo Bellieni ; M.D. The Best Age For Pregnancy and under pressures ; Vol.10 , No.3 September 2016 ; DOI: http://ifrh.tums.ac ir


41. Sivalingam V.N,Duncan W.C,Kirk E, shepherd L.A,Horne A.W., Diagnosis and management of ectopic pregnancy. General of family planning and repr