



# Premature Labor And Balance Diet -A Review Article

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## Abstract:

Premature contraction of the uterus is the very first sign of premature labor, which is followed by progressive changes in cervix such as effacement and dilatation. Four or more uterine contractions with or without pain per hour is a major biophysical predictor of preterm labor. According to the WHO statistics, every year, an estimated 15 million babies are born preterm and this number is rising. Although tocolytic agents are used to suppress premature contractions and prevent preterm labor, it is not proven to be efficacious in preventing preterm birth or reducing neonatal mortality or morbidity. In the United States, preterm delivery is the leading cause of neonatal morbidity and is the most common reason for hospitalization during pregnancy. The rate of preterm delivery (before 37 weeks' gestation) has been declining since 2007. Clinical diagnosis of preterm labor is made if there are regular contractions and concomitant cervical change. Less than 10% of women with a clinical diagnosis of preterm labor will deliver within seven days of initial presentation. Women with a history of spontaneous preterm delivery are 1.5 to two times more likely to have a subsequent preterm delivery. Antenatal progesterone is associated with a significant decrease in subsequent preterm delivery in certain pregnant women. Current recommendations are to prescribe vaginal progesterone in women with a shortened cervix and no history

of preterm delivery, and to use progesterone supplementation regardless of cervical length in women with a history of spontaneous preterm delivery.

**Keywords:** Premature contraction, preterm labor, Sign and Symptom of Premature, Safety and Managements, Herbal medicine used for Premature, Prevention,

## I. Introduction of Premature labor

Premature labor is also called preterm labor. It's when your body starts getting ready for birth too early in your pregnancy. Labor is premature if it starts more than 3 weeks before your due date. Premature labor can lead to an early birth. But the good news is that doctors can do a lot to delay an early delivery. The longer your baby gets to grow inside you right up to your due date -- the less likely they are to have problems after birth. Lots of things can increase your risk of premature labor. Some of them are:

- Smoking
- Being very overweight or underweight before pregnancy
- Being in your teens or age 40 or older
- Not getting good prenatal care
- Drinking alcohol or using street drugs during pregnancy
- Having health conditions, such as high blood pressure, preeclampsia, diabetes, blood clotting disorders, or infections
- Being pregnant with a baby that has certain birth defects
- Being pregnant with a baby from in vitro fertilization
- Being pregnant with twins or other multiples
- A family or personal history of premature labor
- Getting pregnant too soon after having a baby

## II. Signs & Symptoms of Premature labor

Notify your pregnancy care physician or midwife if you have:

- Contractions, cramping, or tightening of your uterus occurring more than 4-5 times in an hour
- Abdominal cramps, with or without diarrhea
- Lower backache that may be constant or may come and go
- Pressure in your vagina or pelvic region
- Ache in your inner thighs
- Increased vaginal discharge
- Fluid leaking from your vagina - your water breaks with a gush or a trickle
- Bleeding in any amount coming from your vagina

### Premature baby in the past:

- Ask your health care provider about progesterone therapy. There is a type of progesterone called 17-alpha hydroxyprogesterone caproate, or 17P for short, that can help you carry your pregnancy longer than the previous one.
- If your cervix is shorter than expected, your health care provider may suggest a different type of progesterone, or that you could benefit from a Cerclage, which is a stitch placed in the cervix to help hold it closed until your baby is full term.

To stop premature labor, you need to know the warning signs. Acting fast can make a big difference. Call your midwife or doctor right away if you have:

- Backache, which usually will be in your lower back. This may be constant or come and go, but it won't ease even if you change positions or do something else for comfort.
- Contractions, every 10 minutes or more often, that get faster and more severe
- Cramping in your lower abdomen or menstrual-like cramps. These can feel like gas pains that may come with diarrhea.
- Fluid leaking from your vagina
- Flu-like symptoms such as nausea, vomiting, or diarrhea. Call your doctor even about mild cases. If you can't tolerate liquids for more than 8 hours, you must see your doctor.
- Increased pressure in your pelvis or vagina
- Increased vaginal discharge, Vaginal bleeding, including light bleeding

Some of these may be hard to tell apart from normal symptoms of being pregnant, like backache. But you can't be too cautious. Get any possible warning signs checked out.

Checking for contractions is a key way of spotting early labor.

- Place your fingertips on your abdomen.
- If you feel your uterus tightening and softening, that's a contraction.
- Time your contractions. Write down the time when a contraction starts, and write down the time at the start of the next contraction.
- Try to stop the contractions. Get off your feet. Change your position. Relax. Drink two or three glasses of water.
- Call your doctor or midwife if you continue to have contractions every 10 minutes or more often, if any of your symptoms get worse, or if you have pain that's severe and doesn't go away.

Keep in mind that many women have harmless false labor called Braxton Hicks contractions. These are usually erratic, don't get closer together, and stop when you move around or rest. They are not part of labor. If you're not sure about the type of contractions you're feeling, get medical advice. If your doctor or midwife thinks you're going into premature labor, you probably need to go to the hospital. Once you arrive, a doctor, midwife, or nurse will:

- Ask about your medical history, including medicines you've been taking during pregnancy.
- Check your pulse, blood pressure, and temperature.
- Put a monitor on your belly to check your baby's heart rate and your contractions.
- Swab for fetal fibronectin, which helps predict the risk of delivering early.
- Test your urine or cervix for infection, Check your cervix to see if it is opening.

If you are diagnosed with premature labor, you may need treatment, which may include:

- IV fluids
- Medicine to relax your uterus and stop labor
- Medicine to speed up the development of your baby's lungs
- Antibiotics or Being admitted to the hospital

If your labor has kept up and can't be stopped, your doctor or midwife will get ready to deliver your baby. They may also do this when you have an infection of the amniotic fluid and uterus or an illness such as severe preeclampsia or eclampsia (high blood pressure that happens during pregnancy). A baby may also be delivered early if it's not doing well, if you have placenta previa (a placenta covering the cervix) that bleeds a lot, if you have placental abruption (detached placenta), or if certain birth defects or malformations are found. If doctors say you're not in premature labor, you can go home. Despite the popular belief, bed rest doesn't seem to help prevent preterm birth and has risks of its own. The most important things you can do to help have a healthy baby are to be in the best of health before you get pregnant and to get prenatal care.

It may not be possible to avoid preterm labor and preterm birth, but these steps may help:

- Try to reduce your stress. Set aside some quiet time every day and ask for help when you need it.
- Researchers have also found a link between gum disease and preterm birth, so brush and floss your teeth daily.
- If you smoke, quit.

Your doctor will check you for risk factors of premature delivery and discuss which precautions you should take. Measuring the length of the cervix using a special transvaginal ultrasound probe can help predict your risk of delivering prematurely. This is usually done between 20 and 28 weeks of pregnancy, if necessary. Recent studies have shown that treatment with a hormone called progesterone can prevent preterm birth in certain women. Vaginal progesterone is given to pregnant women found to have a short cervix. And women who've had a preterm birth before and who are pregnant with one baby can get progesterone shots throughout pregnancy to lower their risk.

## C. Prevention of Premature Labor:

It's best to wait until at least 39 weeks and to let labor begin on its own. Sometimes mothers, mothers-to-be, and even doctors think it is safe to have a baby early. But did you know that a baby's brain nearly doubles in weight in the last few weeks of pregnancy? The health department has joined the March of Dimes and the Healthy Babies are Worth the Wait campaign to educate moms and moms-to-be, that if your pregnancy is healthy, it's best to wait until at least 39 weeks and to let labor begin on its own. Here are some reasons why babies are worth the wait:

- A full term pregnancy is 40 weeks. Studies have shown that more than half of women think it's safe to deliver between 34 and 36 weeks, even though babies benefit from time to develop.
- Important organs like the brain, lungs and liver are still developing up until the end of pregnancy.
- A baby born just a few weeks early may have vision and hearing problems, have trouble staying warm and feeding.

Following are Ways of Preventing or Reducing the Risk of Premature Labor:

### A. Live a healthy lifestyle

- Avoid tobacco, smoking, e-cigarettes, and second hand smoke
- Don't drink alcohol while trying to get pregnant and during pregnancy



- Get medical conditions like diabetes and high blood pressure under control
- Lose weight to avoid being obese; if you are underweight, gain weight

- Lower your stress levels: try yoga, meditation, being active, support groups, balance work and your life
- Work on having a healthy relationship with your partner without violence
- Don't use street drugs and avoid misuse of prescription drugs
- Eat a balanced diet with foods containing iron and folic acid
- Be active every day: try to get 30 minutes of exercise every day

Take good care of yourself and your baby during pregnancy

- Seek prenatal care early in your pregnancy, particularly if you have any risk factors for preterm birth such as having had a premature baby in the past, or having a problem with your uterus or cervix
- Attend prenatal visits with your partner
- Tell your physician or midwife if you think you are having signs of premature labor (below)
- Live a healthy lifestyle
- If you and your baby are healthy, it is best to wait until at least 39 weeks and let labor begin on its own

#### **D. Safety and Precaution:**

- **Speak to your doctor**

If you've had a history of premature labour, it is always best to tell your doctor because the risks are higher. Your doctor will be able to monitor you closely to make sure you are given the best care.

- **Drink more water**

Many neglect the fact to drink more water during pregnancy. Dehydration can cause contractions that could lead to premature labour. Always stay hydrated.

- **Take your supplements**

It is crucial for you to take good quality vitamins while you're pregnant to support the pregnancy so that you're getting all the nutrients you need. Nutrient deficiency can cause chemical imbalance in the body, leading to premature labour.

- **Watch your diet**

The foods you eat have direct impact on your body and baby. Unhealthy and imbalance diets could lead to pregnancy related conditions such as gestational diabetes that could cause premature labour. Increase probiotic bacteria (the 'good' bacteria in your gut) by taking foods like natural yogurt, sauerkraut, and kefir. These are excellent sources of probiotics which can reduce the colonisation of bad bacteria in the vagina.

- **Go for a walk**

One of the best exercises you could do is walking. It keeps your heart pumping at a healthy rate and also improves blood circulation.

- **Do prenatal yoga**

These classes are taught by experienced instructors who can help improve your flexibility and it is great for your blood circulation too.

➤ **Empty your bladder**

Holding urine puts pressure on your abdomen that could inflame your bladder, lead to bacteria infection, and affects the uterus. It is always a good idea to use the bathroom often.

➤ **Avoid lying on your back**

It is advised to lie on your left side while you sleep as it improves blood circulation. Lying on your back puts pressure on your spine and stretches the uterus.

➤ **Take warm baths**

Warm baths at around 36 degree Celsius immediately calms the body and relaxes your muscles. This is a really great way to calm your uterus in the evenings when you're feeling tension.

➤ **Treat yourself**

Go for a pregnancy massage or a day in a spa. It is good for the body and the mind as it takes away stress.

## **E. Unani treatment of premature labor**

- I. Sprinkle water on face.
- II. Oral administration of Aab Anar (pomegranate juice), Arq Gulab (Rose distillate), Arq Badiyan (fennel extract) and Arq Gauzaban (Extract of *Onosma bracteatum*) –48 ml each is given orally. Dawa al-Misk Motadil, Jawarish Amla, etc are also useful.
- III. Oral administration of Gulqand Aftabi 24gm with Arq Gulab/Arq Badiyan at bedtime.
- IV. Ood Saleb (*Orchis officinalis* Linn.) 1gm ground with Arq Gulab is given orally with Yaqooti Motadil. Thereafter Decoction prepared with Gul Gauzuban (*Onosma bracteatum* Linn.) and Arq Gulab is given with Sharbat Gauzaban in case of recurrence. [4, 10, 11]
- V. Menstrual bleeding during pregnancy:  
Sometimes periodic vaginal bleeding occurs during pregnancy. In this context, Aabzan (Sitzbath) with the decoction of astringent agents like Adas (lentil), Qishoor Rumman (fruit peel of pomegranate), Julnar (flower of pomegranate), Afis (*Quercus infectoria* Olivier) and Baloot (*Aesculus hippocastanum* Linn) is advised. [2,8]
- VI. Zimad (paste) prepared with Qishoor Rumman (fruit peel of pomegranate), Julnar (Flower of pomegranate), Afis (*Quercus infectoria* Olivier), Teen yabis (dry fruit of *Ficus carica* Linn.) and Khal (vinegar) rubbed over the pelvic region (hypogastrium). [2,8]
- VII. Su' al Qinya (Anaemia during Pregnancy):  
Anemia is one of the prevalent problems that occur during pregnancy which contributes about 20% of maternal deaths in the developing countries. Anemia in pregnancy mostly occurs due to deficiency of iron due to increased demand and reduced intake of iron. Estimated amount of dietary intake of iron is to be 30 mg/day during second and third trimester of pregnancy. Deficiency of iron causes breathlessness, palpitation, fatigue,

pedal edema, preterm labour and fetal growth retardation. [1,8,10]

## F. Management of Premature labor

Correction of anaemia before conception: Muwallid-i Dam Aghzia wa advia (haematinic diet and drugs) are recommended during pregnancy like cereal flour with husk, green leafy vegetables, turnip, beet root fruits like gooseberries, pomegranate, grapes, Banana and dates are included in the diet.

- Sharbat Anarain, Sharbat Deenar 20-40 ml per day.
- Sharbat Faulad 30ml per day. [10,11]
- Adwiya Mufreda (Single drugs) useful during pregnancy:
  - Amla (*Emblica officinalis* Gaertn.)
  - Darunaj (*Dornoicum hookeri*)
  - Qaranfal (*Syzygium aromaticum* Linn)
  - Jauz Buwa (*Myristica fragrans* Houtt.)
  - Zarawand (*Aristolochia*)
  - Sudab (*Ruta graveolens* Linn)
  - Afis (*Quercus infectoria* Olivier)
  - Behi (*Cydonia oblonga*)
  - Rumman (*Punica granatum* Linn)
  - Unnab (*Vitis vinifera* Linn)
  - Kundur (*Boswellia serrata* Roxb)
  - Mastagi (*Pistacia lentiscus* Linn).[8,9,10,11]

Murakkabat (Compound drugs) used for premature labor:

Maa al-Lehm, Jawarish lulu, Jawarishat prepared with aromatic drugs, Khamira marwareed, Khamira Gauzuban Ambari, Jawarish Amla, Sharbat Faulad, Sharbat ikseer Khas, Jawarish Anarain, Dawa ul-Misk, Dawa barae Muhafiz-i Janeen wa muqawwi meda, Majoon Kamuni, are used after 1st trimester.[8,9,10,11]

## G. General Management for Premature labor

Regular visit for ANC Checkup starting from the first trimester initially monthly visit then fortnightly and weekly visit is advised with the advancement of pregnancy for physical examination, Immunization against Tetanus and Investigations for early detection and management of pregnancy and fetal development related issues. Pallor is seen for anemia, Icterus for jaundice, Blood Pressure and pedal edema for early detection of eclampsia, per abdominal examination for fetal growth, venous engorgement in legs for varicose veins and per vaginal examination during last month for pelvic assessment. Emergency visit to hospital during labour pains, watery discharge or if any bloody discharge occur per vaginally. [5,7,13]



## ➤ Nutrients During Pregnancy



Now that you're pregnant, you need a lot of essential nutrients for you and your growing baby. It can be confusing for you to keep a track of which ones are the most important and how to incorporate them in your daily diet. There's no magic formula for a nutritious pregnancy diet. In fact, during pregnancy, the basic principles of eating healthy remain the same – a balanced diet with whole grains, fruits and vegetables, good amount of proteins and healthy fats and make sure you even drink plenty of water. However, there are a few nutrients that deserve special attention in your pregnancy diet. Here are a few that top the list:

### ➤ Folic acid (Vitamin B9)

Folic acid is a pregnancy superhero! Right from the start, during the early development of your little one, and throughout your pregnancy folic acid is beneficial. Folic acid is crucial in helping to prevent neural tube defects, serious abnormalities of the brain and spinal cord. You may be recommended to take approximately 500 micrograms of folic acid per day. As your folic acid requirement increases during pregnancy, you may be advised to have folic acid supplementation. Make sure you follow the given recommended dosages. You can get ample amounts of folic acid from green leafy vegetables, oil seeds like sesame, oranges, strawberries, legumes like chickpeas, fortified breakfast cereals, beans, etc.

### ➤ Calcium

It is the most abundant mineral found in your body. Calcium is used to develop your baby's bones and teeth. Your baby will take all the calcium from your body if you don't consume enough calcium. This can make you prone to osteoporosis (brittle bones). You may need around 1200 milligrams of calcium per day during your pregnancy. Dairy products Milk, yoghurt, cheese, etc. are the best sources of calcium. Other than these calcium-fortified juices, salmon, tofu, certain legumes and beans, green leafy vegetables, etc. are good sources of calcium.

## ➤ Iron

Pregnancy can deplete your iron stores. Therefore, it is important to have an appropriate intake of iron to maintain these stores. During your pregnancy, you need an extra amount of iron to make more blood to supply oxygen to your developing baby. The requirement of iron during pregnancy will be depending on your haemoglobin and iron levels in the blood. Your obstetrician will make sure you are getting enough iron to meet your daily requirements after 16 weeks. Calcium and iron tablets should not be taken together. Maintain at least 3-4 hours of gap between them. Some iron-rich foods include meat, poultry, organ meat, iron-fortified salt, iron-fortified cereals, beans, sprouts, etc. To increase the absorption of iron make sure you include vitamin C rich sources like a glass of orange or lime juice with a bowl of iron-fortified cereal, fruits like guavas, berries, melons with your meals. Also, make sure you avoid the inhibitors like tea/coffee, too much of fibre with the meals- take it an hour before or after the meal. Cooking methods of sprouting, malting, roasting, fermentation, grinding will help in enhancing iron absorption.



## ➤ Protein

Protein is another important nutrient you need to consume throughout your pregnancy. It helps to build muscle, bone, skin, blood and other parts of your baby's body. It is especially important in the second half of your pregnancy as your baby begins to grow faster. Make sure you are getting the recommended daily amount of vitamin. During pregnancy, your protein requirements may be approximately around 70 grams and will vary depending on your body weight. Milk, poultry, eggs, fish, yoghurt, cheese, legumes, beans, nuts, etc. are a few sources of protein you can include in your daily diet.

## ➤ Omega-3 fatty acids

Not all fats are bad especially omega-3 fatty acids. When it comes to your baby, omega-3 helps develop and sustain the health of your growing baby's heart, immune system, brain and eyes, especially during your third trimester when your baby's brain growth is at its peak. Omega-3 fatty acids: Docosahexaenoic acid (DHA) and Eicosapentaenoic acid (EPA) play a vital role in the visual and cognitive development of your growing baby.

They may even help fight post-partum depression, regulate pregnancy related mood swings and reduce the risk of preterm birth. Salmon, tuna, walnuts, flaxseeds, etc. are rich sources of omega-3 fatty acids.

### ➤ Iodine

Believe it or not, you and your baby need enough amount of iodine while you're pregnant. A trace of iodine in your diet plays a big role in brain development. Iodine is essential for the development of the brain and nervous system of your developing baby. According to the World Health Organization (WHO), iodine deficiency is the world's most prevalent, yet preventable cause of brain damage. Your daily iodine intake during pregnancy may range between 150-250 micrograms.

### Conclusion:

Despite intensive research, the mechanisms triggering the ~15 million premature labor occurring worldwide every year remain unclear. Nutritional interventions are promising primary prevention strategies, yet to date, many broad-based interventions with the potential to reduce the risk of premature labor are effective only in specific groups of women, most likely due to the heterogeneity of the population and the etiopathogenesis of premature labor. At present, omega-3 PUFA seems to be the nutrient holding the most promise for the prevention of premature labor. Based on the available evidence, omega-3 supplementation during pregnancy to prevent premature labor should be targeted to women with low omega-3 status in early pregnancy. Clinicians should discuss the importance of a good diet with pregnant women and in the absence of measured maternal omega-3 PUFA levels, advise dietary source essential fatty acids be regularly consumed during pregnancy, and low-dose fish oil supplements may be explored to provide the necessary omega-3 required for optimal maternal and fetal outcomes. Advancement of this field requires the development and implementation of a targeted approach and evidence-based precision nutrition in antenatal care. Several Herb or household remedies in prevention of premature labor also used since ancient Unani System of medicine.

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