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### **Forbidden Foods for Healthy Pregnancy**

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#### **ABSTRACT**

Food is important for continuing life. During pregnancy, dietary requirements of a woman increase as the growing embryo draws nutrition from the mother's body. Hence during the days of pregnancy, would be mother needs to consume foods rich in vitamins, minerals and also should be sufficient enough to meet her calorie requirements and support the growing embryo. Not only the quantity but also the quality of the food should be considered.

**KEY WORDS:** Embryo, food, fetus, health benefits, pregnancy

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## **INTRODUCTION**

There are various folk opinions which vary from place to place, community to community regarding abstinence from consumption of certain food stuffs during the days of pregnancy. Some of those food components are otherwise consumed in daily life by normal people and some are even considered to possess certain health benefits. The same food components have been found to possess threat for maintenance of normal pregnancy and impose threat of miscarriage, fetal death and abnormal development of fetus. Some other food components are considered forbidden during pregnancy only due to myths. Clear knowledge about the truly harmful foods which are to be avoided from consumption during pregnancy may assure additional mental peace, confidence and a healthy pregnancy.

## **PAPAYA**

It is known from years that consuming raw papaya induces miscarriage. Papaya (*Carica papaya*) is a common fruit in India and is native to Mexico and northern part of South America. The fruit has lots of medicinal properties, is cheap and easily available. The raw fruit is consumed as a vegetable. Studies reveal that aqueous extract of papaya may induce uterine contraction and can even lead to embryonic resorption<sup>1</sup>. Studies have been conducted on isolated rat uterus and mice embryo. The uterine stimulant effect of papaya has been deduced to be probably because of papaya induced increased level of oestrogen and decreased level of progesterone<sup>1</sup>. Papaya seed extract also has been found to have toxic effect on isolated rat uterus<sup>2</sup>. In some Asian countries, unripe papaya is used as contraceptive<sup>3</sup>. Papaya has been found to contain an enzyme called 'papain' which decreases level of progesterone<sup>4</sup>. Progesterone is an essential hormone for maintaining pregnancy. Papain is a proteolytic enzyme and is also known to dissolve the cervical clog and induce miscarriage. Ripe papaya is though considered to be safe to consume during days of pregnancy<sup>5</sup>.

## **PINEAPPLE**

Pineapple (*Ananas comosus*) is a very tasty fruit. Studies reveal that fresh pineapple contains Bromelain. Bromelain is a proteolytic enzyme. This enzyme can make uterine tissue soft and leads to miscarriage<sup>6</sup>. Bromelain is found to be present in entire pineapple plant but is primarily extracted from the stem of pineapple. The extract of pineapple fruit and stem has use in folk medicine as well. Also the extract of pineapple is used in cooking for tenderizing meat<sup>7</sup>. Bromelain has several medicinal uses like blood thinner, anti inflammatory, anticoagulant, pain reliever etc<sup>8</sup>. Bromelain is being explored for its use against pain related issues of osteoporosis and against cancer<sup>9</sup>. The core of pineapple contains highest amount of Bromelain<sup>10</sup>. This proteolytic enzyme may favor implantation

if used in right dose and at right time of the menstrual cycle. Thus consumption of pineapple is considered beneficial for women who wants to conceive or trying to conceive. But once conceived, pineapple consumption should be avoided. It actually facilitates implantation of embryo by virtue of its blood thinning, anti-inflammatory and proteolytic properties<sup>8</sup>. Bromelain is actually a combination of more than one proteolytic enzyme found in pineapple and it refers to either any one of those enzymes or the combination<sup>9</sup>. Besides its uterine softening property, Bromelain in high dose is known to induce uterine contraction which may cause miscarriage<sup>8</sup>.

### **BITTER GOURD / BITTER MELON**

Bitter gourd (*Momordica charantia*) is a common vegetable, abundantly available and popular in the Indian subcontinent. It is known as karela in India and is consumed by people for its extensive health benefits and medicinal properties. Bitter gourd has pronounced beneficial effect in diabetes mellitus<sup>12</sup>. Some are of the opinion that if pregnant women consume excess bitter gourd, its bitter taste may cause contraction of uterus leading to miscarriage<sup>11</sup>. Bitter gourd juice induces uterine contraction and is considered harmful for pregnant women. Bitter gourd juice is known to cause bleeding and induce abortion in pregnant women. Bitter gourd juice may also induce pre-term labor<sup>13</sup>. Seeds of bitter gourd contain vicine which is known to cause favism in some individuals. Thus consumption of bitter gourds with seeds may cause favism in pregnant women<sup>14</sup>. A protein substance called 'momorcharin' has been purified from the seeds of bitter melon<sup>15</sup>. This momorcharin has been found to have inhibitory effect on spermatogenesis in experimental dogs and also has been found to have antifertility effect in female mice<sup>16</sup>. It has been reported that mice that have been fed bitter melon juice has remarkable decrease in their fertility<sup>14, 16</sup>. Also, it has been reported that midterm miscarriage has occurred in mice who were treated with momorcharins<sup>18</sup>.

### **FENUGREEK SEED**

Fenugreek seeds (*Trigonella foenum-graecum*) are used as spice in various dishes. It imparts a special aroma if used in cooking. These seeds have several medicinal uses and extensive therapeutic uses<sup>19</sup>. Fenugreek seed contains a phytochemical called saponin. Saponin present in the fenugreek seeds has similar effect as the human hormone called oxytocin<sup>20-22</sup>. By virtue of this saponin, the seed has uterine contraction stimulating effect. Fenugreek seed may thus induce abortion in pregnant women by inducing uterine contraction and should be avoided by pregnant women<sup>20</sup>. Though fenugreek seeds are used to prepare a sweet dish in western part of India which is consumed by lactating women to help milk production<sup>21, 22</sup>. Studies also reveal that fenugreek seeds

reduce the level of progesterone and causes contraction of uterine smooth muscle leading to abortion in experimental pregnant ewes <sup>23</sup>.

## **EGG PLANTS**

Egg plant (*Solanum melongena*) is a common vegetable and is popular all around the world. Egg plant is considered unsafe for pregnant women <sup>24</sup>. Egg plant has been found to possess several medicinal properties <sup>25</sup>. Egg plant contains lots of phytohormones which may cause miscarriage <sup>24</sup>. Yet consuming eggplant in diet at times in small amount during the days of pregnancy might not impose serious problem for the expecting mother and the developing embryo.

## **SESAME SEEDS**

Sesame seeds (*Sesamum indicum*) are known to be the oldest oilseed crops. Sesame seeds have different names in different geographical regions. They are called benne, bene, gingelly or til seeds. Sesame seeds occur in four different colours which are white, black, yellow and red. The colours vary depending on the strain of the plant <sup>26</sup>. Sesame seeds are used as home remedy for inducing abortion <sup>27</sup>. Consuming sesame seeds in excess during pregnancy are dangerous as it may induce uterine contraction leading to abortion. Sesame seeds are considered harmful especially during the first trimester when the pregnancy remains delicate <sup>26</sup>.

## **SOME OTHER HARMFUL FOODS FOR PREGNANT WOMEN**

Some other foods which are part of our regular diet and are often consumed are actually dangerous and harmful for pregnancy. Among those are caffeine containing food, aloe vera (*Aloe sp.*), cheese <sup>28</sup>. Aloe vera is considered harmful for pregnancy if consumed orally <sup>29</sup>. Women are known to use aloe vera juice to induce abortion at home. Aloe vera is known to cause uterine contraction and uterine hemorrhage causing miscarriage <sup>29</sup>. Cheese may cause infection of bacteria listeria in pregnant women and thus may impose threat of abortion and hence is better to avoid during months of pregnancy <sup>28</sup>. Sprouted potatoes contain certain chemicals like alpha soanine and alpha chaconine etc., and those chemicals are known to cause potential developmental deformities in developing embryo. The deformities in early stage embryo may lead to abortion. Hence, sprouted potatoes should be strictly avoided during pregnancy <sup>28</sup>.

**Table 1. List Of Some Forbidden Plant Foods, Harmful Components And Their Effects On Pregnancy**

<b>Plant foods</b>	<b>Phyto-component</b>	<b>Effects</b>
Papaya	Papa in	Reduces progesterone level and endometrial thickening.
	Milky Latex	Stimulates prostaglandin and oxytocin assisted uterine contraction.
Pine apple	Brome lain	Softens endometrial tissues and cervix, induces early labour leading to miscarriage.
Bitter gourd	Momordica proteins and momorcharins	Abortifacient effects.
Fenugreek seed	Saponin	Oxytocin mimicking action and preterm labour inducer
Brinjal	Phytohormones	Triggers early menstruation and risk factor during early pregnancy.
Sesame seeds	Estrogen like substance	Competes with estrogens at trophoblastic binding sites reduces trophoblastic growth and HCG production.
Aloe Vera	Aloe Vera latex or anthraquinones	The latex is also thought to cause congenital disabilities in the foetus. It can cause abortion or stimulate menstruation.

## **Conclusion**

Food is an important component for a healthy life. Food is very important for maintaining a healthy pregnancy. The pregnant mother not only needs to consume foods rich in vitamins and minerals but also she should consume a balanced diet <sup>29-31</sup>. Junk foods and spicy foods should be strictly avoided in order to avoid health ailments during pregnancy. Foods which are easily digestible should be in d daily diet of a pregnant woman. Her diet should be composed of foods rich in dietary fibers, vitamins and minerals. There are many foods which we eat regularly and hardly bother to exclude those from a pregnant woman’s diet. There are several such common foods , some of which have been discussed in this review which can impose serious threat to the developing embryo and the damage may be severe enough to cause miscarriage. Pregnancy is a blessing in a woman’s life which completes her womanhood. During this period a tiny little human develops in the mother’s womb. The woman’s physiology undergoes several changes <sup>32,, 33</sup> . Thus the period of pregnancy is very delicate and needs special care. Proper rest, a balanced diet devoid of harmful foods and rich in vitamins <sup>29</sup>, regular medical check up, guidace and medication, self awareness and self care are extremely important during this phase. Care from others at home and work place are also necessary for maintaining sound health of both mother and fetus during the entire period of pregnancy. A pregnant mother should be made aware about the foods she consumes and their probable effects on

her pregnancy. Foods that a pregnant mother eats decide the health of the growing fetus and also the mother's health. Sound health's of the mother with normal levels of pregnancy hormones are necessary for inhibiting unnecessary uterine contractions and for maintaining a normal and healthy pregnancy.

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## **CONFLICT OF INTEREST**

Authors declare no conflict of interest

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