

International Journal of Scientific Research and Reviews

Forbidden Foods for Healthy Pregnancy

Ghosh Debosree^{1*} and Ghosh Suvendu²

¹Department of Physiology, Government General Degree College, Kharagpur II,
P.O- Madpur, Dist - Paschim Medinipur, Pin : 721149, West Bengal, India

²Department of Physiology, Hooghly Mohsin College, P.O. - Chinsurah,
Dist. - Hooghly, Pin-712 101, West Bengal, India

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

*** Corresponding author**

Dr. Debosree Ghosh

Department of Physiology,

Government General Degree College

Kharagpur II, P.O - Madpur,

Dist - Paschim Medinipur, Pin : 721149, West Bengal, India

Email id: ghoshdebosree@gmail.com, Mobile no.: +91 9830320757

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 resorption¹. 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 progesterone¹. Papaya seed extract also has been found to have toxic effect on isolated rat uterus². In some Asian countries, unripe papaya is used as contraceptive³. Papaya has been found to contain an enzyme called 'papain' which decreases level of progesterone⁴. 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 pregnancy⁵.

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 miscarriage⁶. 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 meat⁷. Bromelain has several medicinal uses like blood thinner, anti inflammatory, anticoagulant, pain reliever etc⁸. Bromelain is being explored for its use against pain related issues of osteoporosis and against cancer⁹. The core of pineapple contains highest amount of Bromelain¹⁰. 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 properties⁸. 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 combination⁹. Besides its uterine softening property, Bromelain in high dose is known to induce uterine contraction which may cause miscarriage⁸.

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 mellitus¹². Some are of the opinion that if pregnant women consume excess bitter gourd, its bitter taste may cause contraction of uterus leading to miscarriage¹¹. 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 labor¹³. 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 women¹⁴. A protein substance called 'momorcharin' has been purified from the seeds of bitter melon¹⁵. 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 mice¹⁶. It has been reported that mice that have been fed bitter melon juice has remarkable decrease in their fertility^{14, 16}. Also, it has been reported that midterm miscarriage has occurred in mice who were treated with momorcharins¹⁸.

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 uses¹⁹. Fenugreek seed contains a phytochemical called saponin. Saponin present in the fenugreek seeds has similar effect as the human hormone called oxytocin²⁰⁻²². 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 women²⁰. 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^{21, 22}. 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 ²³.

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 ²⁴. Egg plant has been found to possess several medicinal properties ²⁵. Egg plant contains lots of phytohormones which may cause miscarriage ²⁴. 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 ²⁶. Sesame seeds are used as home remedy for inducing abortion ²⁷. 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 ²⁶.

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 ²⁸. Aloe vera is considered harmful for pregnancy if consumed orally ²⁹. 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 ²⁹. 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 ²⁸. 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 ²⁸.

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

Plant foods	Phyto-component	Effects
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 ²⁹⁻³¹. 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 ^{32,, 33} . 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 ²⁹, regular medical check up, guidance 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.

ACKNOWLEDGEMENT

Dr. DG is in West Bengal Educational Service (WBES) and acknowledges the Department of Physiology, Govt. General Degree College, Kharagpur II, West Bengal, India. Dr. SG is in West Bengal Educational Service (WBES) and acknowledges the Department of Physiology Hooghly Mohsin College, Chinsurah, Hooghly, West Bengal, India.

CONFLICT OF INTEREST

Authors declare no conflict of interest

REFERENCES

1. Sumath M, Ugendra K. Effect of Unripe *Carica papaya* on Uterus. Int. J Res Ayurveda Pharm 2013; 4(3): 345-348.
2. Adebisi A, Ganesan AP, Prasad RN. Tocolytic and toxic activity of papaya seed extract on isolated rat uterus. Life Sci. 2003; 74: 581-92.
3. Aravind. G *1, Debjit Bhowmik 1 , Duraivel. S 1, Harish. G.. Traditional and Medicinal Uses of *Carica papaya*. Journal of Medicinal Plants Studies 2013; 1(1):7.
4. 7 Papaya Enzyme Side Effects and Warnings. Available from: <http://superfoodprofiles.com/papaya-enzyme-side-effects-warnings> [Cited on 26.02.2018].
5. Papaya during pregnancy-the complete guide. Available from: <http://www.superbabyonline.com/papaya-in-pregnancy/> [Cited on 26.02.2018].
6. Which fruit can cause 99% of miscarriage Available from: <https://www.quora.com/Which-fruit-can-cause-99-of-miscarriage> [Cited on 26.02.2018].
7. Bromelain. Available from: <https://en.wikipedia.org/wiki/Bromelain> [Accessed on 26.02.2018].
8. <http://natural-fertility-info.com/bromelain-pineapple-for-implantation.html>. Available from: <http://natural-fertility-info.com/bromelain-pineapple-for-implantation.html> [Cited on 26.02.2018].

9. Safety of Pineapple During Pregnancy. Available from: <http://www.pregnancy.com.au/pregnancy-information/what-to-eat-in-pregnancy/safety-of-pineapple-during-pregnancy.shtml> [Cited on 26.02.2018].
10. Manzoor Z, Nawaz A, Mukhtar H, Haq I. Bromelain: Methods of Extraction, Purification and Therapeutic Applications. Braz. arch. biol. technol. [online]. 2016; 59 [Cited on 28.02.2018].
11. Available from: <http://mom.girlstalkinsmack.com/family/6-kinds-of-vegetable-that-increase-risk-of-miscarriage.aspx> [Cited on 01.03.2018].
12. Joseph B, Jini D. Antidiabetic effects of *Momordica charantia* (bitter melon) and its medicinal potency. Asian Pacific Journal of Tropical Disease. 2013;3(2):93-102. doi:10.1016/S2222-1808(13)60052-3.
13. Tara PSS. Side Effects Of Bitter Gourd Juice During Pregnancy. Available from: <https://www.boldsky.com/pregnancy-parenting/prenatal/2015/bittergourd-juice-side-effects-during-pregnancy-it-cau-064179.html> [Cited on 01.03.2018].
14. Mannanov T. Bitter Gourd in Pregnancy. Available from: <https://iythealth.com/bitter-gourd-pregnancy/> [Cited on 01.03.2018].
15. Yao X1, Li J, Deng N, Wang S, Meng Y, Shen F. Immunoaffinity purification of α -momorcharin from bitter melon seeds (*Momordica charantia*). J Sep Sci. 2011;34(21):3092-8.
16. Hudson T. Nutrient Profile: Bitter melon (*Momordica charantia*). Natural Medicine Journal 2012; 4(10).
17. Stepka W, Wilson K, Madge G. Antifertility investigation on *Momordica*. Lloydia J Nat Prod 1974; 37(4): 345.
18. Chan W, Tam P, Yeung H. The termination of early pregnancy in the mouse by beta-momorcharin. *Contraception*. 1984; 29(1): 91-100.
19. Jasim Naeem Al-Asadi. Therapeutic Uses of Fenugreek (*Trigonella foenum-graecum L.*). Fenugreek Special Issue. AJSIH 2014; 21-36.
20. Escot N. Fenugreek. *Atoms Summar*. 1994; 7-12
21. Umesh C. S. Yadav & Najma Z. Baquer Pharmacological effects of *Trigonella foenum-graecum L.* in health and disease, *Pharmaceutical Biology*, 2014; 52(2): 243-254.
22. Passano P. The many uses of methi. *Manushi* 1995; 31- 4.
23. Samia A. A. Hassan*, Sania A. I. Shaddad, A. K. Muddathir, Amna E. H. Mohammed. Effect of Fenugreek Seeds (*Trigonella foenum graecum l.*) On Hematological And Biochemical Performance of Pregnant And Non Pregnant Ewes. *WJPR* 2016; 5(5): 260-265.

24. Anamika. 3 Main Reasons To Avoid Brinjal (Eggplant) During Pregnancy. Available from : <http://www.stylecraze.com/articles/main-reasons-to-avoid-brinjal-during-pregnancy/#gref> [Cited on 01.03.2018]
 25. Das M, Barua N. Pharmacological activities of *Solanum melongena* Linn. (Brinjal plant). Int J Green Pharm 2013; 7: 274-7.
 26. Malachi R. Sesame Seeds (Til) During Pregnancy: Does It Lead To A Miscarriage? Available from: http://www.momjunction.com/articles/safeconsumesesameseedspregnancy_0010112/#gref [Cited on 15.03.2018].
 27. Jennifer. My Health Tips To Keep You Fit & Healthy! Most Effective Natural Abortion Methods for Terminating Unwanted Pregnancy. Available from: <https://www.myhealthtips.in/2016/03/natural-abortion-methods.html> [Cited on 09.10.2018].
 28. Ger W. 15 Foods You Didn't Know Can Cause A Miscarriage. Available from: <https://www.babygaga.com/15-foods-you-didnt-know-can-cause-a-miscarriage/> [Cited on 15.03.2018].
 29. Ghosh D. Vitamins in Pregnancy. WJPR 2017; 6(12): 424-428.
 30. Saha C, Ghosh S, Gupta K, Hazra S, Dome R, Ghosh D. A Survey Report on Dietary Habit and Nutritional Status of a family of “Kharua Bazar” at Chinsurah. WJPPS. 2016; 5(6): 1338-1345.
 31. Dome R, Hazra S, Saha C, Ghosh D, Gupta K, Ghosh S. An Epidemiological Threat of Chronic Energy Deficiency In Urban Family of Metropolitan Chandannagore City of Hooghly District In West Bengal. WJPPS 2016; 5(6): 1972-1984.
 32. Ghosh D, Ghosh S, Firdaus SB, Singha PS . Health Ailments in pregnancy .International Journal of Health Sciences and Research, 2018; 8(6): 1-10.
 33. Ghosh D, Parida P. Health Benefits of Pregnancy. WJPR 2018; 7(2): 361-364.
-