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# ADVERSE EFFECTS OF PESTICIDES IN GARBHINI - AHARAJA AND VIHARAJA NIDANA

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**ABSTRACT**

*Ayurveda gives great importance to health of pregnant women during and after pregnancy period in terms of Ahara i.e. specific dietary regimen and vihara i.e. activity for physical, mental and emotional wellbeing. In our classics Ahara -vihara is described under the context of Garbhini Paricharaya. Garbhini Paricharya is divided in three categories such as Masanumasika Pathya ahara and Vihara (monthly dietary regimen and lifestyle), Garbhasthapaka karma (diet and activities for maintenance of pregnancy and better progeny) and avoidance of Garbhopaghatakar Bhavas (diet and activities which are harmful to fetus) its believed that fetal growth is dependent on appropriate diet and life style of pregnant mother. In current era diet and lifestyle are adversely effected by multiple factors one among which is exposure to pesticides Pesticides is an umbrella term for insecticides, nematicides, fungicides, herbicides, fumigants, repellents, and attractants used against unwanted plants and animals to control diseases and losses exposure to these toxins have a higher risk of miscarriage, low birth weight , still birth and birth defects compared to non-exposed pregnant women and such a major incidence witnessed was endosulfan poisoning in Dakshinkannda region . Hence Ahara and Vihara play significant role towards the health of pregnant women and development of fetus.*

**KEYWORDS** – *Vihara , pesticides ,toxins ,vihara*

## INTRODUCTION

*Ayurveda* gives great importance to health of pregnant women during and after pregnancy period in terms of *Ahara* and vihara ,described under the context of *Garbhini paricharaya*.i.e *mananumasika Ahara* and *Vihara* ,*Garbhasthapaka karma* , *Garbhopaghatakara bhavas*. Child healthy is closely related to maternal health , a healthy mother brings forth a healthy baby , there is less chance for a premature birth , still birth or Abortion. In current era diet and lifestyle are adversely affected by multiple factors.one among is, exposure to pesticides.

***Aim and Objectives*** - To understand the importance of vihara and adverse effect of exposure to pesticides in *Garbhini*

**Materials and methods**- *Ayurveda* classics with other various internet sources are referred in correlating the concept

***Garbhini Paricharya***

*Garbhini Paricharya* refers to antenatal care which recommends *Ahara, Vihar* and *Vichara* The main intend behind advising *Garbhini Paricharya* is *Paripurnatva* (provide proper growth of the fetus and mother), *Anupaghata* (uncomplicated pregnancy), *Sukhaprasava*

**Pesticides**

Pesticides is a wide group of compounds that are used in agriculture to "prevent, destroy, repel or mitigate any pest ranging from insects (i.e., insecticides), rodents (i.e., rodenticides) and weeds (herbicides) to microorganisms (i.e., algicides, fungicides or bactericides).[2]

**Route of Exposure**

Contact, ingestion, inhalation

Pesticides one of the key xenobiotics that mother can be exposed to and which can lead to neonatal health problems**.** Some of the pesticides are known of their toxic properties and thus are prohibited to use, such as organochlorines (e.g. DDT), but still greatly used for crops both in poorly and well-developed countries.[3]

**Effect of pesticides on pregnant women (ref health effects on neonates**

Maternal exposure to pesticides can disrupt foetal organ formation and rapid cell division, leading to abnormalities. Pesticide exposure can result in both acute and chronic toxicity symptoms, including headaches, vomiting, abdominal pain, respiratory issues, and ulceration in the upper gastrointestinal tract[4]. Chronic effects may manifest as asthma, paediatric cancer, acute lymphocytic leukaemia, hormonal imbalances, preterm birth, and low birth weight. Furthermore, pesticides can increase the prevalence of premature births, birth defects, neurological and behavioural disorders, blood cancers, and respiratory and endocrine disruptions in newborns[5].

**Exposure and effect of pesticides on fetus (3 ref how pesticides effects neonates )**

Exposure to pesticides during fetal and childhood stages is particularly perilous because these are critical periods of vulnerability when organs are forming and cells are dividing rapidly. The brain undergoes crucial development between weeks 3 and 16, making it especially sensitive to pesticide exposure, which can lead to cognitive deficiencies. In the first

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four weeks, major developments like the formation of the amnion, umbilical vesicle, and chorionic sac occur. Between the fourth and eighth weeks, during organogenesis, exposure to teratogens, including pesticides, can cause significant birth defects, both in terms of function and structure. Additionally, during the fetal period, especially after the ninth week, there's a risk of functional issues like cognitive deficits and minor anatomical abnormalities, particularly in the ears[6].

Organophosphate, organochloride, and neonicotinoid pesticides pose significant health risks, particularly during pregnancy and childhood. Organophosphates, including dibutyl phosphate and diethyl phosphate, can cause endocrine disruption, neurocognitive dysfunction, ADHD, aggressive behaviour, and intoxication. Organochlorides are linked to low birth weight, neuropsychological and neurodevelopmental impairments, and increased BMI, with specific chemicals like B-HCH, endosulfan, aldrin, DDT, and HCBs causing neurobehavioral and neurodevelopmental disorders[7]. Neonicotinoids, a newer class of insecticides, are known for their neurotoxicity, leading to cognitive and developmental issues. Reducing exposure to these pesticides and finding safer alternatives are crucial for protecting public health[8].

**Discussion**

*Garbhini Paricharya*, an essential aspect of Ayurvedic medicine, is given prime importance in maintaining the health of *Garbhini* (pregnant women) as well as ensuring a healthy progeny. This traditional practice emphasizes a holistic approach to pregnancy, advocating for proper diet, lifestyle, and medical care throughout the gestation period to promote the well-being of both mother and child. Key components include nutritional guidelines, herbal supplements, physical activity, and mental well-being, all tailored to each stage of pregnancy. However, due to globalization, there has been a drastic change in lifestyle and environment, directly impacting the health of pregnant women. One of the major contributing factors in the present era is pesticide exposure. Many studies have claimed a positive association between pesticide exposure and adverse outcomes such as spontaneous abortions, birth defects, and other abnormalities, including fetal death. These risks are exacerbated by modern agricultural practices and the pervasive use of chemicals, which are in stark contrast to the natural and organic approaches emphasized in *Ayurveda*. A significant incident highlighting this issue was the Endosulfan poisoning in the Dakshina Kannada district, which underscored the severe consequences of pesticide exposure. Such incidents demonstrate the urgent need for stricter regulations and safer alternatives to protect maternal and fetal health in the face of changing environmental and lifestyle factors. Ayurveda advocates for the use of organic farming methods and natural pest control to minimize such risks, emphasizing a return to traditional practices that align with the principles of natural harmony and health. By integrating Ayurvedic principles with modern practices, it is possible to mitigate the adverse effects of globalization and ensure the health and well-being of pregnant women and their unborn children.

## CONCLUSION

To avoid the complications of these toxins, we should emphasize *Shodhana* (detoxification) during the pre-conception stage to remove toxins and ensure a healthy progeny. Prime importance should be given to *Garbhini Paricharya* (care during pregnancy), and practices such as *Pranayama* (breathing exercises) and *Yoga* should be followed to avoid such consequences. Certain Ayurvedic medicines like *Devdaru, Ksheerakakoli, Shatavari, Sariva, Kantakari, Bala, Gokshura, Musta, and Ashwagandha* should be consumed according to a month-wise regimen. Thus, *Ahara* (diet) and *Vihara* (lifestyle) play significant roles in the health of pregnant women and the development of the fetus.

## REFERENCES

1. *Shashri S, Pandey K. Chaturvedi G. Charak Samhita of Agnivesha, revised by charak and Dridhabala, elaborated with hindi commentary, Sharirsthana, ch np.8, verse no33, Varanasi, chaukhamba bharti Acadamy, 2007, p.939*
2. *https://www.sciencedirect.com/science/article/pii/S0048969722059587*
3. *https://www.sciencedirect.com/science/article/pii/S0048969722059587*
4. *https://www.researchgate.net/publication/328096060_Health_Effects_of_Pesticides_on_Pregnant_Women_and_Children*
5. *https://www.researchgate.net/publication/328096060_Health_Effects_of_Pesticides_on_Pregnant_Women_and_Children*
6. *https://doi.org/10.1016/j.scitotenv.2022.158859*
7. *https://doi.org/10.1016/j.scitotenv.2022.158859*
8. *https://www.intechopen.com/chapters/72504*