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Research Article

EFFECT OF *DAUHRUDAVASTHA* (DESIRES DURING PREGNANCY) ON FETAL DEVELOPMENT

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ABSTRACT

Life begins with conception even nine months prior to the delivery. Entire gestational period is important for achievement of healthy baby along with prevention of complications during pregnancy. *Dauhrudavastha* is the special concept of *Ayurveda* affecting fetal growth. It is the period during which pregnant woman *(Dauhrudini)* expresses dietary and behavioural desires. These longings are desires of fetus, fulfillment of which is beneficial for proper gestation, whereas non fulfillment or ignorance causes various developmental anomalies.

In present clinical study, impact of fulfillment of longings of *Garbhini* (pregnant woman) on fetal growth is assessed. For this, 60 pregnant women were selected. They were grouped on the basis of questionnaire especially prepared for case study. 30 pregnant women who developed '*Dauhrudavastha*' and longings were attended and fulfilled registered in group A. Group B involves 30 pregnant women whose longings were ignored. Entire gestational period (up to delivery) is observed during ANC check up. After delivery, gestational ages of neonates were assessed by examining physical and neurological parameters. On comparison of '*Dauhrudavastha'* and 'neonatal examination', it was found that 80% neonates of group A having appropriate at term gestational age. Only 23.33% neonates of group B were having appropriate at term gestational age. The study suggests that along with nutritional support, attention should be given to *'Dauhrudavastha'* as it affect fetal growth.

KEYWORDS: *Dauhrudavastha, Dauhrudini, Garbhini,* Gestational period, Fetal development, Longings.

INTRODUCTION

Amongst life processes, regeneration-reproduction is of great value. '*Sharir-Sthana'* of *Ayurvedic samhitas* describes *Garbhasharir* (embryology) right from *Garbhadhan* (conception) upto *Jatakarma* (neonatal care). *Shukra* (sperm), *Shonita* (ovum), *Atma* (consciousness) and *Panchamahabhutas* (basic elements) are responsible factors for conception.[1] *Panchmahabhutas*, *Dhatu parinaman* and *Tridoshas* lead to development.[2] The factors like nutritional deficiencies, teratogenecity, infections and traumas affect fetal growth and causing development anomalies. *Acharya Sushruta* mentioned 'to do and not to do's [3] in details to fulfill nutritional demand and prevent anomalies in fetus with equal importance to *Dauhrudavastha*. During this period, pregnant woman expresses fetal longings. *Dauhrudavimanana* (ignorance of longings) lead to anomalies like *Khanjatwa* (deformity in a lower extremity), *Pangutwa* (both lower extremities get deformed), *Mukatwa* (dumb) etc.[2] *Ayurveda* assume that all these deformities are found to be *Vataprakopajanya* (vitiation of *Vata dosha*). As healthy pregnancy outcome is prime aim during gestation, concepts in *Ayurveda* of *Masanumasik ahar* (monthly dietetic regimen) *Garbhini paricharya* (regimen during pregnancy) and *Dauhrudavastha* should be attended. The appropriate term gestational age requires fulfillment of desires of pregnant woman.

Aims and objectives

1) To find out the cause, various forms and exact duration of *Dauhrudavastha*.
2) To study effect of fulfillment of desires of pregnant woman on gestation.
3) To find out the effect of ignorance of *Dauhrudavastha* on psychology of pregnant woman and fetal growth.
4) To compare *Dauhrudavastha* with physical and neurological parameters of neonate indicating gestational age.

Material and Methodology

The present clinical study was carried out in following manner.

1) Observation of *Dauhrudavastha* during pregnancy.
2) Assessment of gestational age in neonate of same pregnant women.

For the purpose, 60 pregnant women were selected from 'Stri-Rog' OPD of Ayurved mahavidyalaya Akola and 'Bakshi Nursing Home, Akola. (MS).

Evaluation of *Dauhrudavastha* was done during ANC check up on the basis of their obstetric history from 3rd month. 30 pregnant women were selected as group A who have *Dauhrudavastha* and 30 pregnant women as group B who don't have. They were observed throughout trimesters.

CRF of clinical study including questionnaire is made to point out information such as-

- Feeling of desire, onset of desire.
- Type of desire, intensity of desire.
- Whether the desires attended or not?
- Weight gain and clinical assessment of pregnancy during each trimester.
- Psychology of pregnant women.
- Other expectations from family members.

Assessment of fetal growth - For evaluation of effect of *Dauhrudavastha* on gestation, neonates of group A and B pregnant women were examined after birth. Physical and neurological parameters were assessed. [4]

Sr. No.	Physical parameters of neonates	Neurological parameters of neonates
1.	Sole creases	Muscle tone (Posture)
2.	Ear cartilages	Moro's reflex
3.	Skin	Pupillary response to light
4.	Genitals	Glabellar tap-blink response
5.	Breast nodules	Grasp response
6.	Hair	Traction response
7.	Head circumference	Feeding (Sucking reflex)
8.	Fontanellae	General alertness.
9.	Abdomen	-

Observations and Results

Following conclusions were drawn regarding '*Dauhrudavastha*'

Pregnant women of particular group	No. of pregnant women with desires	No. of pregnant women having desire of diet	No. of pregnant women having desire other than diet	No. of pregnant women with fulfillment
Group A (30)	30	21	09	30
Group B (30)	15	08	07	00

No. of pregnant women with desires	Onset of desire			
Group A (30)	third month	fourth month	fifth month	sixth month
Group B (30)	02/30	20/30	08/30	-
	01/15	09/15	05/15	-

Above observations indicate that 75% pregnant women go through *Dauhrudavastha* at the end of 3rd month and during 4th month.

Assessment of gestational age of neonates of group A and B on the basis of physical parameters.

No. of neonates clinically examined		**Physical parameters of neonates examined**			
Neonate of group A	**Neonate of group B**	**Head Circumference (cm**	**Fontanellae**	**Ear cartilages**	**Sole creases**
24	07	32-34	Normal, flat	Mature with elasticity	Numerous deep creases present
04	13	42-45	Not fully flat	Recoil is present	Scanty deep creases present
02	10	> 45	Large, bulging	Recoil is poor	Single superficial creases present

Neonate of group A	**Neonate of group B**	**Skin**	**Genitals**	**Breast nodule**	**Hair**	**Abdomen**
24	07	Pink, without pallor. Extremities warm	M-Penile length >2.5 cm F- Majora and minora differentiated	Fully mature	Black, thick, silky	No distention, soft
04	13	Pinkish, Extremities warm	M-Penile length >2.5 cm F- Majora and minora differentiated	Near about 5mm	Black, thick, lenugo	Slightly distended
02	10	Pale skin Extremities cool	F-Majora and minora undifferentiated	Small in size	Thin, fuzzy	Distended

M - Male, F- Female

Assessment of gestational age of neonates on the basis of neurological parameters.

No. of neonates clinically examined		**Neurological parameters of neonates**			
Neonate of group A	Neonate of group B	Moro's reflex	Glabellar Tap	Response to light	Traction response
24	07	Strongly present	Strongly present	Normal	Present
04	13	Slight abduction	present	Normal	Present
02	10	Absent	Absent	Inhibited	Not able to lift neck
Neonate of group A	**Neonate of group**	**Grasp power**	**Sucking reflex**	**General alertness**	–
24	07	Strong grasp present	Normal	Normal	–
04	13	Moderately present	Present	Normal	–
02	10	Weak grasp present	Absent	Sluggish	–

Following observations and results were made after assessment of physical and neurological parameters in neonates:

Appropriate at term gestation observed in 80% neonates of group A and 23.33 % neonates of group B.

Near to term gestation observed in 13.33 % neonates of group A and 43.33 % neonates of group B.

Pre term gestation observed in 6.66 % neonates of group A and 33.33 % neonates of group B.

Statistical analysis

Gestational age of neonates of volunteers was determined on the basis of physical and neurological parameters after birth. Normal (appropriate at term) and abnormal (near to term and pre term) gestational age assessed by

	Normal gestational age	Abnormal gestational age
A	24	06
B	07	03

examination gave following values:
Chi-square value- 19.2881 (P at 0.01 is 6.64)

As P value > 0.01, difference between values of normal and abnormal gestational ages of group A and B neonates is significant. It indicates that fulfillment of desires of pregnant women (*Dauhrudavasta*) support growth and development of fetus.

DISCUSSION

In Ayurveda, Sharirsthana of Charak Samhita, Sushrut Samhita, Ashtanghrudaya, Harita Samhita deals with *Sharir* (human anatomy). As *Prakruti* (physic) and bala (immunity) build up in fetal stage. [5] Acharyas focused on every developmental changes along with growth influencing factors in '*Garbhasharir*'.

Ayurveda believes that *Atma* (soul) and *Panchamahabhutas* are equally important factors for conception with union of *Shukra* (sperm) and *Shonita* (ovum)[1]. As each bodily part has *Panchabhautik* origin, an effort is made to maintain homeostatic condition of *Mahabhutas* and *Tridoshas* (basic functional elements). For the purpose, *Masanumasik ahar*[6,7] and *Garbhiniparicharya* [8,9] described which help to nourish specific *Dhatu* described in *Masanumasik garbhavruddhi*.

Modern science quoted fetal growth in terms of systemic and tissue development. Ayurveda considered *Panchabhautic-Tridoshaja* variation as a predisposing factor for *Upachaya* (development) of specific *Dhatu* in that particular month. Along with physical development *Acharya Sushruta* mentioned existence of *Mana* and *Buddhi*.[10] Gestation leads to physiologic and psychological changes. Energy expenditure and hormonal changes are basic ailment for changes.

Most of the pregnant women feel dietetic and other unusual desires in second trimester. This unique condition is considered as '*Dauhrudavastha*'. The pregnant woman is supposed to have two inter-related *Hrudayas*. Dauhrudavastha is due to the existence of *Chetana* at its site. Cardiac activity proves expression of consciousness (*Chetana*).[11] Almost all systemic development started upto month of four and fetus start to feel eternal factors (*Sukha* and *Dukha* etc). As fetus has no self existence it expresses own desires through mother. Acharya Charaka, Sushruta and Vagbhata considered *Dauhrudavastha* in third, fourth and fifth month.[12,13] These maternal desires should not be ignored as non-fulfillment will lead to developmental anomalies. Proper fulfillments of desires definitely help to generate healthy baby.

For healthy gestation and to prevent pregnancy complications, modern science mentioned importance of nutrition, mental stability and regular ANC check-up. Nutritional deficiencies, stress, work overload lead to inappropriate gestation. *Garbhiniparicharya* (regimen in pregnancy) involve dietetic and daily regimen considering benefits for both mother and foetus for healthy pregnancy outcome. Factors hazardous to growth mentioned as *Garbhopaghatakara bhava*. *Dauhrudavimanana* (ignorance to desire) lead to anomalies like *Khanja* (debility of one leg), *Pangu* (mal development of both legs), *Mukatwa* (inability to speak), *Minmina* (slurred speech).[14] IUGR, spina-bifida are the fetal anomalies having nutritional deficiency origin. Acharya Sharangdhara in *Purvakhand* include these deformities as *Vataprakopjanya.* [12] Ignorance to *Dauhrudavastha* leads to *Manodwega* (psychological disturbance) causing vitiation of *Vata* affecting fetal growth. Dietetic desires if not get fulfilled lead to anomalies due nutritional deficiency.

The gestational age of fetus is assessed by various techniques. Antenatal clinical check up, USG have important roles to assess growth. After delivery, clinical check up of neonate gives an idea of gestational age. Evaluation of age has also done with physical and neurological parameters. Sole creases, ear cartilage etc. considered as physical whereas reflexes, muscle tone are neurological parameters. Neurological reflexes start to develop after 30 weeks and very well develop as age advances upto 34-36 weeks. Baby with appropriate gestational age have single deep sole crease, developed ear cartilage, thick hair and flat fontanellae.

Neonates were examined clinically immediately after deliveries of group A and group B pregnant women. It was noted that maximum babies of group A pregnant women have appropriate gestational age. Neonates of

group B have variety of growth rate. Comparative assessment was done between checked neonatal parameters and history of *Dauhrudavastha*.

CONCLUSION

1) During second trimester, about 80% of pregnant women feels various longings i.e. *Dauhrudavastha*.
2) Slight relief from morning sickness and increasing nutritional demand for growth lead to desire for frequent tasty diet.
3) Fulfillment of desire provide nourishment as well as mental peace to pregnant women which enhance proper fetal growth.
4) Vitiation of 'Vata' and 'Mental irritability' due to ignorance to desire has impact on gestation.
5) 80 % pregnant women of group A whose longings were fulfilled gave birth to full term babies.
6) Only 23.33% pregnant women of group B gave birth to babies having proper growth whereas 73.66% babies born with improper gestational age.
7) For healthy pregnancy outcome nutritional status and mental peace improved by fulfilment of *'Dauhrudavastha'*.

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