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Critical Analysis on the Concept of Kashyapa's Phakka Chikitsa in the Management of Motor Developmental Delay

Abstract

Acharya Kashyapa is considered as the father of *Kaumarabhritya* and author of a book *Kashyapa Samhita* or *Vruddajeevakeeya Tantra* has described the diagnosis of many pediatric diseases and concepts of management. *Phakka* is a disease complex characterized by a symptom as the child is unable to walk even after the age of one year. *Phakkatva* denotes that it is a syndrome developing due to various causes characterized mainly with emaciation and gross motor function deficit. Kashyapa has explained the concept of *phakka chikitsa* in detail. Presently, these types of symptoms are commonly seen in children during early period of childhood as "developmental disorder." Many conditions are included in developmental disorders, such as developmental delay, cerebral palsy, failure to thrive, motor function deficit, global motor delay, gross motor delay, Down's syndrome, etc., wherein the development is delayed and child is not able to perform the motor activities. Application of Kashyapa's concept of *phakka chikitsa* in motor function disabilities helps to improve the children's condition in the present scenario.

Keywords: Kashyapa, *Phakka*, Motor functions, Developmental delay.

Introduction

Development is a measure of functional or physiological maturation and myelination of the nervous system. Development is defined as acquisition of qualitative and quantitative skills/ competencies in a social milieu. Development of the child is assessed in the following four areas: gross motor development, fine motor development, social development and language development. If the child fails to attain the key milestones by the expected age, he is said to suffer from developmental delay. Around 10% of children are estimated to suffer from developmental delay. Developmental delay may be motor function delay, learning disability, cerebral palsy, delayed speech, etc. Developmental delay is when a child does not progress as expected in achievement of specific milestones such as learning to sit, crawl, walk, play or talk. Gross motor delays are common among children. About 3.3 children per 1000 have more permanent motor disabilities such as cerebral palsy and 6% of children have developmental coordination disorder.

Causes

1. Bad Obstetrical History Maternal illness during intrauterine life such as toxemias, infections peri-natal problems such as complicated delivery, HIE, LBW, prematurity, multiple pregnancy, neonatal seizures, IVH, septicemia, meningitis, kernicterus
2. Nutritional Factors: Chronic PEM
3. Social Factors: Poor socio-economic status, teenage mother
4. Organic disorders
5. Genetic disorders, chromosomal disorders
6. Post meningitis/ encephalitis sequel

Management in Allopathic System: Early recognition and early stimulation, occupational therapy and physiotherapy are recommended in allopathy system.

Phakka Roga in Ayurveda: Developmental delay, specifically motor function delay, can be correlated with the concept of Kashyapa's *phakka roga*. *Phakka* is a disease complex grouped under Kuposhanajanya Vyadhi, wherein the child is observed with malnutrition and motor function deficit. The overall condition of the child is declining. "*Phakkati neechairgacchati iti phakka*" means gradual decline of health. Rather than being considered as *vyadhi*, *phakka* can be considered as a symptom among many diseases. In *phakka* the child is not able to walk even after the age of 1 year.

Nidana: *Garbhini* mother, lack of care, negligence of the child, *grahani dosha* (Gastrointestinal disturbances or *agni dosha*), and *bahubhojana* (excessive intake and malabsorption) are the root causes for *phakka roga*.

Samprapti: Due to *agni dosha (mandagni)* and the process of digestion and metabolism is affected, absorption of nutrients becomes poor, which results into *ati drava mala pravrutti* and *atimutrata* and the *ahara rasa* is not utilized by the body, the ingested food will become waste and child becomes malnourished and suffers from *phakka roga*.

Laxanas of Phakka: *Phakka* is classified into three types based on the *nidanas*.

1. **Ksheeraja Phakka:** Due to *kaphaja stanya* (also known as "phakka dugdha") *sevana* by the child for a longer period, he suffers from many diseases; he becomes *krusha* and attains the state of *phakka*.
2. **Garbhaja Phakka:** Due to the presence of *garbha*, there is early cessation of breast milk in a mother, child becomes emaciated and suffers from *phakka* or even dies.
3. **Vyadhija Phakka:** If the child suffers from *Jvara*, etc., *nija rogas* or *agantuja rogas* during early period of life or if the child is orphan he suffers from *ksheenata* of *mamsa*, *bala* and *dhyuti* (complexion), *sphik*, *bahu* and *uru* becomes emaciated, abdomen becomes protuberant and head and face become more dominant. *Peetakshi* (yellowishness of eyes), *angaharsha* (has horipillation in body parts), appears like skeleton (*drushyamana asthipanjara*), weakness and emaciation in the lower body parts, passes excessive *mutra* and *pureesha*, lower body parts become inactive and weak, crawls with hands and

knees. Due to *dourbalya*, he is presented with *manda cheshta* (poor activities) and he is surrounded by insects and worms. There is dry, stiff body hair, big nails, and emits foul smell. Irritability, difficulty in breathing, dull, passes excessive urine and stool, excessive nasal discharges are seen in *vyadhija phakka*.

Management of Phakka: The concept of *phakka chikitsa* is explained in the following steps:

- a. *Shodhana karma:* *Snehapana* with *kalyanaka ghrita/ shatphala ghrita/ amrutha ghrita* for 7 days followed by *virechana* with *trivruth ksheera* should be done.
- b. *Brahmi ghrita pana* is advised after *koshta shodhana*.
- c. *Ksheera paka*-the milk medicated with *deepaneeya dravya* and either *rasna*, *madhuka*, *punarnava*, *ekaparni*, *eranda* and *shatapushpa* or *draksha*, *pilu* and *trivruth* should be used.
- d. *Pathya-Mamsarasa*, *yusha* or medicated milk should be taken with *shali anna* and also oral intake of the same every day.
- e. *Brumhana dravyas*-Use of *dvi-samskarita* (medicated twice) *ghrita*, *taila*, *yusha* or *mamsarasa* with *rasna*.
- f. *Doshanusara chikitsa*-In *kapha pradhana-mutra mishrita ksheera* is advised orally.
- g. In *vata pradhana phakka-basti*, *snehapana*, *swedana* and *udvartana* is advised.
- h. *Abhyanga* is advised with a special *raja taila*.
- i. *Trichakra phakka ratha* (a three-wheeled chariot) made by a wise carpenter and known as *phakka ratha* is advised to practice gradual walking.
- j. Sufficient sleeping, rest, sitting in a pleasurable place is advised for all *phakka* children.

Discussion

Developmental delay is when a child does not progress as expected in achievement of specific milestones such as gross motor or fine motor skills, namely, learning to sit, crawl, walk, play or talk. Motor developmental delay is associated with many conditions such as global developmental delay, cerebral palsy, chromosomal disorders, namely, Down's syndrome, and failure to thrive is commonly observed. There the child is not able to achieve the milestones of gross motor or fine motor or both as per the age independently and child fails to develop the good nutritional status also. Observed with poor muscle bulk, muscle power and muscle tonicity, these signs can be co-related with Kashyapa's *phakka roga* evidently. In *phakka* the child is not able to achieve

the gross motor activities even after the age of 1 year and also there is a decline in child's health too.

There are different causes for phakka in general. As *garbhini* mother (mother conceives for second time, the breast milk may be withdrawn or there is early cessation of milk which results into malnutrition), *Anatha balaka* (in case of death of mother or child negligence), *grahani dosha*-impaired *agni (mandagni)* may result into poor digestion and metabolism and malabsorption of nutrients and erratic feeding habits (*bahubhojana*) are considered to be the causes.

Samprapti: Due to *mandagni* or *grahani dosha*, whatever the food taken by the child will not be digested and metabolized, which results into *ajeerna* and there will be *ati mala pravrutti* and *ati mootra pravrutti (mala's excreted in the drava form excessively)*, child becomes malnourished.

Types and Laxanas: Based on the *nidana*, *phakka* is classified into three categories:

Ksheeraja Phakka: The child suffers from motor function delay due to intake of *kaphaja stanya sevana* which results into many diseases, suffers from repeated infections and he becomes *krusha/ malnourished* and reaches the state of *phakka*.

Garbhaja Phakka: Due to the presence of *garbha* the first child suffers from *phakka*. There will be early cessation of breast feeding which results into malnutrition and poor immune response in a child, who suffers from diseases.

Vyadhija Phakka: The causes are of two types-*nija* and *agantuja*.

If the child suffers from *Jvara*, etc., *nija rogas* such as exposure to infections such as febrile illness, meningitis, encephalitis, kernicterus, respiratory distress, hypoxic ischemic encephalopathy, convulsive disorders, inborn errors of metabolism, etc., or *agantuja vyadhis* such as external injury to brain, perinatal injuries, difficult labor, brain damage, etc., conditions at the time of birth or during early period of infancy are responsible for *phakka* in future.

Laxanas of Vyadhija Phakka

- Child presents with motor function deficit such as weakness in the lower limbs; emaciation of lower limbs denotes the poor muscle bulk and poor muscle power of the legs.
- *Nishcheshta adhara kaya* signifies the neither hypotonicity nor hyper tonicity of the muscles of lower

limbs with loss of activity. Child is not able to walk but crawl with the support of *pani, pada* and *janu* (palms and foot).

- Generalized features of malnutrition such as *ksheenata* of *mamsa, bala* and *dhyuti* (complexion), *sphik, bahu* and *uru* becomes emaciated, abdomen becomes protuberant and head and face becomes more dominant signifies the wasting of muscles as well as subcutaneous fat, generalized weakness, emaciated limbs and big abdomen and head appears like skeleton (*drushyamana asthipanjara*) clearly identifies the malnutrition.
- *Peetakshi* (yellowishness of eyes), *angaharsha* (has horipillation in body parts) and weakness are the *laxanas* of *pandu*.
- Suffers from *mandagni* and passes excessive *mutra* and *pureesha* indicates gastrointestinal disorder.
- Due to *dourbalya*, he is presented with *manda cheshta* (poor activities) and he is surrounded by insects and worms.
- There is dry, stiff body hair, big nails, emits foul smell are the states of severe malnutrition.
- Psychomotor changes-irritability or dullness.
- Difficulty in breathing, excessive nasal discharges indicate the repeated respiratory infections in *vyadhija phakka*.

Analysis of Treatment

- Koshta shodhana* is done to correct the *agni dosha* in older children.
- Followed by *Brumhana chikitsa*, such as oral administration of *brahmi ghrita* or *samvardhana ghrita* in a minimal quantity twice in a day before food, helps to stimulate the brain centers for motor activity and also maintains the mental status, nourishes the *manovaha srotas* and improves the *manasika satva* in children.
- Ksheerapaka*-The milk medicated with *deepaneeya dravyas* and either *rasna, madhuka, punarnava, ekaparni, eranda* and *shatapushpa* or *draksha, pilu* and *trivruth* is administered orally twice in a day for longer period.
- Use of *dvi-samskarita* (medicated twice) *ghrita, taila, yusha* or *mamsarasa* with *rasna* is indicated in *vata pradhana* condition.
- Doshanusara chikitsa*-In *kapha pradhana-gomutra mishrita ksheera* is advised orally.
- In *vata pradhana phakka* -
 - *Basti-matrabasti* with *kalyanaka ghrita/ samvardhana ghrita*.
 - *Snehana-abhyanga* with either *Ksheerabala taila/ balashvagandhadi/ ashwagandha bala lakshadi taila/ mahamashataila*.

- *Swedana-shashtika shali panda sweda.*
 - *Udvardana with triphala choorna/ kola kulatta choorna* is advised in case of *kaphavarana* or hypo tonicity of muscles.
- g. *Trichakra phakka ratha* (a three-wheeled chariot) made by a wise carpenter, known as *phakka ratha*, is advised to practice gradual walking. This exercise is similar with the physiotherapy skills which help to improve the motor activities.
- h. Sufficient sleeping, rest, sitting in a pleasurable place is advised for all *phakka* children.
- i. *Pathya-Mamsarasa, yusha* or medicated milk added with *deepana dravyas* should be taken with *shali anna* which nourishes the child and improves the physical growth in a proper manner.

Conclusion

Most of the developmental delays are observed due to nutritional factors such as failure to thrive or birth injuries, peri-natal factors, post-natal infections, post-natal jaundice, and convulsions commonly in the pediatric population. Birth asphyxia, maternal infections during pregnancy, genetic conditions, chromosomal disorders, and difficult labor are also the observed causes of motor developmental delay which is usually associated with cerebral palsy and global developmental delay.

Early diagnosis can help reduce family stress and earlier access to available treatment can improve outcomes for children. The treatment modalities explained in *Phakka Chikitsa* helps to improve the motor functions gradually.

Based on the severity and predominance of *doshas, avarana dosha* and *dhatu kshaya* treatment modalities vary:

- In *kaphavrutha vata* condition, the procedure is as follows:

Udvardana followed by *abhyanga* and *shashtika shali pinda sweda, matrabasti* and exercises.

- In *vata pradhana* and *dhatu kshayajanya* condition-*sarvanga abhyanga, shashtika shali panda sweda* and *matrabasti* is advised with exercises for 10 days.

Shamanoushadhis during follow up period:

- Oral administration of *ghritapana, ksheerapaka* or *kashaya* or *yusha* is advised.
- *Abhyanga* everyday with *vatahara, balya* and *brumhana taila*.
- *Brumhana ahara-shali anna* with *mamsarasa, rasna sadhita ghrita, taila, kaheerapaka* is advised for a longer period.
- Special exercise to improve the muscle power and tonicity.

Therefore, the treatment modalities should include the procedures of *udvardana, abhyanga, swedana, basti* and oral administration of *balya, brumhana medhya ghrita, ksheerapaka*, and diet such as *shali anna, mamsarasa, yusha* medicated with *deepana, balya, brumhana* and *vatahara dravyas* and exercises to strengthen the muscles.

Conflict of Interest: None

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