

# Chapter-12

## **NEONATAL CARE IN THE PERSPECTIVE OF GRECO-ARAB MEDICAL WISDOM**

**Dr. Shama Abdul Hai**

*Professor, Department of Iluml Atfal,  
Glocal Unani Medical College, Hospital and Research Centre,  
Glocal University, Mirzapur Pole, Saharanpur, Uttar Pradesh.  
\*Correspondence to: [shama@glocalunanicollege.in](mailto:shama@glocalunanicollege.in)*

**Dr. Rehan Safee**

*Principal & Professor (Tahaffuzi wa Samaji Tib),  
Glocal Unani Medical College, Hospital and Research Centre,  
Glocal University, Mirzapur, Saharanpur, Uttar Pradesh.*

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## **ABSTRACT**

*Human growth process is dynamic occurring in spurts at different periods in the child's life. It is a continuous process occurring sequentially. Characteristic features appearing at particular period are termed as developmental milestones. Children are the asset of a nation. Individual child is unique and though it will show all the developmental milestones. Children are externally delicate and elegant in body, temperature and temperament. Their temper, as it adjusts to growth, should be kept very balanced and moderate, since responds quite rapidly and easily to events going on about it.*

*The Greco-Arab scholars of this oldest practicing medicine since the times of Hippocrates had stressed on certain principles for maintenance and preservation of health of individuals of all ages in detail. The first treatise on pediatrics is "Practica Puerorum" written by Razi in the year 900 AD. Ali Ibne Abbas Majoosi has emphasized upon baby care in his masterpiece, Firdausul Hikmat, Ibne Sina one among the renowned sages of this age old field of knowledge has devoted a chapter to the care of the newborn, including issues such as cleanliness, breastfeeding, and child rearing. and well discussed various aspects of child's physical, mental and social health in his all-time famous treatise, "The Canon of Medicine". He has categorically classified human age according to the quality of temperament and quantity of innate heat and vital fluid. He has also classified childhood age (Sin-e-Namu) into four stages each having its own unique quality and requirement. Ibn Sina has discussed the Childcare (preventive and therapeutics aspects) under the four headings in a synchronized manner viz. Regimen for Newborn and Infants at birth (Tadbir-e-Naumlood/Neonatal Care), Regimen for Lactation and Weaning, Diseases of children and treatment and Regimen for young ones/ Adolescence.*

*This article's goal is to look at different health promotion tactics and the contribution of Unani medicine to raising healthy kids.*

**Keyword:** *Neonates, Sine-Namu, Unani Medicine, Child care.*

## **1. INTRODUCTION**

Infants (0-1 year) constitute about 2.92 % of the total population in India. Ninety percent of the 136 million babies born worldwide each year are born in the third world. Even though these newborns' chances of survival have increased by 50% over the past 20 years, their first hours, days, and months of life remain a never-ending race against time. Twenty to thirty percent of newborns are underweight. They are therefore more susceptible to illness and infection. In the first month of life, almost 40% of all newborn deaths take place. Then comes the weaning period, when one out of four surviving children receives neither the quality nor the quantity of food needed to replace the substances provided by mother's milk. As a result, an increasing number of youngsters

in developing nations have significantly compromised health by the time they reach adulthood. India is in the unfortunate position of being among the least developed countries in the world, with an infant death rate of 58 per thousand, compared to 5 per thousand in the developed world. Many low-cost methods are accessible for saving life of millions of children, like immunization, breast feeding, birth spacing, growth monitoring, improved weaning, oral rehydration. Attention is focused on these elements of child health care in developing countries. (Park, 2017). The Importance of child health has been recognized by many ancient *Unani* physicians. They have mentioned about childhood diseases and their management and also regimens for maintenance of good health in the children. In classical literature of Greco-Arab Medical System; a comprehensive explanation of child care is mentioned under the heading of *Tadabeer-e-Naumaalood* (Neonatal Care). It covers newborn care, feeding practises, dentition management of paediatric illnesses, and the fundamentals of paediatric therapy. Unani scholars have emphasized much upon preventive and curative aspect of child health. Unani remedies are effective for common problems of children as well as for more serious problems. The Unani medical system has a lot to offer in terms of gentle and efficient treatment as well as disease prevention for kids through dietary and lifestyle changes in addition to the use of medicinal herbs.

## **2. GRECO-ARAB MEDICAL WISDOM ON NEONATAL CARE**

*Unani Tibb* is an ancient art of well-being and healing popular as *unani* medicine is practiced throughout the world. The Arabic term "*Tibb*" means "medicine," while the name "*Unani*" is believed to have its origins in the Greek. *Unani Tibb* is a place for invention and change rather than just carrying on Greek ideals. Hippocrates developed the essential tenets of this approach. Scholars from the Arab and Persian cultures further improved this method after him. In addition to translating Galen's and Hippocrates' extensive publications, they also produced several important medical discoveries and contributions, particularly in the areas of anatomy, embryology, ophthalmology, pathology, pediatrics, physiology, psychiatry, surgery and pharmacy. Based on scientific principles and experimentation, this synthesis produced a more complete and universal medical system (Saad, 2011).

Infant mortality can be reduced by adopting preventive measures like management of pregnancy related complications, hospital delivery, Immunization and giving essential care to newborn, which includes proper examination, cleaning, and umbilical cord care to prevent newborn infections, thermal protection, breast-feeding and immunization (Park, 2017; Dan, 2008).

Unani physicians have also given importance to these measures and discussed Newborn, infant and childcare in detail. They have mentioned about childhood diseases and their management and also regimens for maintenance of good health in the children. The comprehensive explanation of child care is mentioned under the heading of *Tadabeer-e-Naumaulood* (Neonatal Care) and *Amraz e atfal* (Diseases of the Children). It covers newborn care, feeding practises, dentition management of paediatric illnesses, and the fundamentals of paediatric therapy. Many classic works of Unani medical literature provide extremely thorough advice on child care, such as *Hippocrates's Air, Water & Places*, *Soranus's Gynaecology*, *Firdous-ul-Hikmat*, *Kitab-ul-Mansoori*, *Kamil-us-Sana*, *Al Qanoon fit Tib*, *Kitab-ul-Mukhtarat fit Tib* and *Kitab-ul-Kulliyat*, etc which is discussed below:

- From Hippocrates (460-370 BC) to Late Antiquity, babies and toddlers are defined as a category of beings with a special morphology and physiology. These characteristics are on the whole negative. Newborn babies are generally described as imperfect, weak and ugly. In Latin literature, *infans* and *infantia* appear by the close of the first century BCE, along with new terms, such as *bimus* or *bimulus*, denoting the two-year-old child (Véronique Dasen, 2010).
- Aristotle (384-322) explains that many children die within the first week, and hence are named only past that period. Becoming human then starts as a long process. For a week, before the loss of its dried umbilical cord, the newborn child “is more like a plant than an animal,” says Plutarch (46-119 AD). In ancient medicine, no illness is specific to children, but children have predispositions to specific illnesses that can rapidly become fatal. Harmless disorders, like aphthous ulcers, are innocuous for adults, but, when the painful canker sores invade the mouth, the uvula, and the throat, they hamper proper feeding and can be lethal for sucklings who cannot be easily treated (Peter M Dunn, 1993; Véronique Dasen, 2010).
- Medical writers mention two critical periods during infancy. The Hippocratic Aphorisms (fourth century BCE) distinguish first affections of little and newborn children (*paidia*), from birth to seven months: aphthae, vomiting, coughs, insomnia, frights, inflammation of the navel, discharges from the ears. The second dangerous stage occurs at seven months, when teething begins: ulceration of the gums, fevers, spasms, and diarrheas, especially when the canine teeth appear. Celsus and other authors of the Roman period repeat these principles. (Peter M Dunn, 1993; Véronique Dasen, 2010).

- A Hippocratic treatise on Dentition reflects the importance of that stage, also an object of great attention in folk medicine, as teeth can “kill”: any secondary disorder, such as fever or gum ulceration, could quickly degenerate with dramatic consequences. Beside teething, often associated with digestive troubles, diarrheas were feared: “In cases of diarrhea, danger of death is at hand; this disease carries off mostly children of the age of up to ten; other ages bear it more easily,” explains Celsus (2<sup>nd</sup> Century) but without linking his observations with malnutrition or poor hygiene. (Véronique Dasen, 2010).
- In his masterpiece, *Air, Waters, & Places*, Hippocrates mentions that until weaning is complete, most diseases, such as skin abscesses, ulcerations and even vesicle stones, were attributed to a defective nurse’s milk disturbing the humoral balance: “Children get stones also from the milk, if it be unhealthy, too hot, and bilious”. This long-lasting idea contributed to the misunderstanding of infectious eruptive diseases affecting children only once, like measles or smallpox. Hot and moist, less robust than adults, children must be treated with moderation, as Celsus says: “Indeed in general children ought not to be treated like adults. The only medicine regularly applied directly to the suckling is preparations with honey to calm ulcerations of the mouth (Véronique Dasen, 2010).
- The best way to treat infants until weaning is the nurse’s milk that has the property to transmit the qualities of remedies to the child. Constipation, diarrhea, exanthema, aphthous ulcers can be treated through the nurse who must follow the entire treatment, including physical exercises and baths: “For as a general rule, as long as the infant is nursed, we put the wet-nurse on a regimen appropriate to the disease of the child” (Soranus, *Gynaecology*, 1<sup>st</sup>/2<sup>nd</sup> Century AD). Even epilepsy could be treated through the nurse’s milk (Véronique Dasen, 2010).
- Jalinoos (129-200A.D.) has given some regimens and guidelines for healthy development of children. Jalinoos initially recommended routine for a newborn involves sprinkling salt on their body to help their body tolerate chemicals or particles strange to them. Ibne Rushd has expressed his belief that the salt that doesn't irritate should be utilised for this objective in this regard. Abu Marwan has mentioned that Roghan Baloot is suitable for this purpose as it does not cause any irritation. Jalinoos has advised to give bath to a child in hammam (Ibne Rushd, 1987).
- Rabban Tabri (770-850 AD) in “*Firdaus-ul-Hikmat*” has provided some guidelines for the children's healthy growth and development. When the child grows up little, the child should be allowed for moderate exercise. The diet ought to be

light. At the stage of learning, the child ought to be prepared for wrestling and sent bare feet in the wrestling field. The child should be prohibited from liquor as its excessive intake makes body martoob and fills the brain with bukhaarat. The children must have a hot bath (Tabri AAM, 2002).

- Zakaria Razi (850-923A.D.) "Kitab-ul-Mansoori" has stated in one of his works that a child must not be given an excessive amount of fruits, sweets, cheese, milk, or heavy meals in order to protect them from illness or disease. The excessive intake of these foods may cause vesicle calculus (Razi AMBZ, 1991).
- Ali Ibne Abbas Majoosi (930-994A.D.) in his work named "Kamil-us-Sanaah" has mentioned some regimens for proper development of child. The diet should be provided to the child following a bath in lukewarm water once they have passed the breastfeeding threshold. It is necessary to serve the child's preferred diet twice a day. The youngster must be regularly forbidden from eating, and meals like as those high in wheat and sugar, hareesa, and eggs should be avoided as they can lead to renal and bladder calculus and indigestion. (Majoosi AA, 1889).
- Ibne Sina (980-1037A.D.) Al Qanoon Fit Tib has devoted a specific section of his work, comprising four chapters, to discussing the ailments and developmental stages of children. He discussed how to care for a newborn till they are able to walk in the first chapter. He discussed breastfeeding and the qualities of a good wet nurse in the second chapter. He discussed paediatric illnesses such diarrhoea, worms, sleeping problems, colds, coughs, throat tumours, vomiting, hiccups, cramping in the abdomen, tenesmus, nightmares, ear pain, discharge, weeping, and rectal prolapse in the third chapter. He described how to handle youngsters till adulthood in the fourth chapter. Remarks about paediatric illnesses including bedwetting, convulsions, measles, smallpox, and congenital deformities can be found in different chapters of Al-Qanoon. (Ibne Sina, 1993).
- Ibne Hubal Baghdadi (1122-1213) has given some guidelines for proper growth of the children in his book "Kitab-ul-Mokhtarat Fit Tib". The child on crossing the age of lactation needs light, nutritive food and mild exercise, which should be gradually enhanced according to age. Every day before taking diet, the child has to be given bath with clean and freshwater and liberty for mild activities has to be given. Massage has to be given to strengthen the organs. Child has to be given cardiogenic diets and prohibited from Non-nutritious diets. They should be inculcated or brought up with good habits (Ibne Hubal, 2005).

- Ibne Rushd (1126-1198A.D.) in his book “Kitabul-Kulliyat” has given regimens for proper child growth from newborn to adult stage. According to him, during lactation period, the child ought to be given bath on empty stomach to prevent the spreading of undigested milk to Aasaab. When the child wakes up from sleep in morning, the child ought to be given mild exercise followed by massage and bath. Thereafter diet moderate in quantity and quality should be given. In the early afternoon, when the child desires for food, all the regimens followed in the morning need to be repeated. Exercise must not be heavy as it causes dryness of body and dryness retards the growth. Hot bath is best advised to a child rather than cold bath as the cold bath causes growth retardation. Children ought to be prohibited from intake of nabeez and hypnotic substances as these things causes jamming in the head or brain; it rises the temperature and makes the thoughts illusive. During an epidemic, the children need to be prohibited from intake of all fruits, as the blood produced by these fruits can get easily infected. They have to also be prohibited from intake of meat during epidemic (*Ibne Rushd, 1987*).

Unani physicians have also given importance to these measures and discussed Newborn, infant and childcare in detail. *Ibn Sina* has discussed the Childcare (preventive and therapeutics aspects) under the four headings in a synchronized manner:

1. Regimen for Newborn and Infants at birth (*Tadeere-Naumolood*)
2. Regimen for Lactation and Weaning
3. Diseases of children and treatment
4. Regimen for young ones/ Adolescence

### **3. REGIMEN FOR NEWBORN AND INFANTS AT BIRTH (TADBEERE-NAUMOLOOD)**

Majority of the Unani physicians and scholars have given a detailed description on newborn care encompassing the illnesses of infancy, the care of the baby, and the time from delivery until the start of weaning. It covers everything from umbilical cord care to swaddling, eye care, bathing, skin care, sleeping quarters, breastfeeding, weaning, and supplies for a wet nurse, among other things. rectal prolapse, earache, ear discharge, tenesmus, terrible nightmares, and sobbing. He described how to handle youngsters till adulthood in the fourth chapter. Remarks about paediatric illnesses including bedwetting, convulsions, measles, smallpox, and congenital deformities can be found in different chapters of *Al-Qanoon*.

### **Cutting and Caring of Umbilical Cord**

Ibn-sina suggested that the umbilical cord must be cut four fingers away from umbilicus with clean instrument and be tied with a soft, clean and casually coiled woolen thread. He also advised to place a clean fabric sopping in olive oil over the stump. To prevent bleeding and infection of umbilical cord Avicenna suggested to put a dusting powder containing haldi (*Curcuma longa*), *Dam-ul-akhwain* (*Pterocarpus marsupium*), *Zeera* (*Cuminum cyminum*) and *Mur* (*Commiphora myrrha*). These medicines have anti-infective and haemostatic properties. When the cord separates after 3–4 days, it is proper to dust the umbilicus with ashes of oyster shell or burnt tendon of calf's hoof or burnt zinc dissolved in alcohol (*Ibne Sina, 1993; Anonymous, 2001; Lawrence, etal, 2015*).

### **Swaddling**

The nurse should carefully handle the limbs and mould the different components, spreading out the areas that need to be flat and thinning the parts that need to stay slim. Capped and congenital defects should be covered with a light turban or a cap that fits well. (*Razi AMBZ, 1991; Majoosi AA, 1889; Ibne Sina, 1993; Kabeeruddin, YNM; Shah MH, 2007; Jurjāni I, 1896*).

### **Care of Eyes**

Using a gentle silky cloth, wash the eyes gently. You should put a few drops of olive oil in your eyes. (*Razi AMBZ, 1991; Majoosi AA, 1889; Ibne Sina, 1993; Kabeeruddin, YNM; Shah MH, 2007; Jurjāni I, 1896*).

## **4. BATHING OF NEW BORN BABY**

Abu Sahal Masihi in his treatise *Kitab Kamilus sana* suggests putting a dusting powder consisting of rose petals and salt, it will harden and tone up the skin. He also advocates having 2–3 times bathing the child with warm water containing rose petals. Suck the baby's ears after bathing them to ensure that no water is left inside. (*Majoosi AA, 1889*).

Ibn-sina advocates to hasten to apply slightly salted water on the body of the infant which also contains some quantity of shadnaj (blood-stone), qust (sausura lapa), sumaq, and fenugreek. This will harden the countenance and tone up the skin. The reason for hardening the body of a newborn is that it is warm and delicate and anything which comes in contact with it is felt cold and rough. But the mouth and nose must not be exposed to salt water. He also suggested that after bathing with salt water, baby must be rinsed with tepid water. While giving bath, the infant should be held by the right hand by placing its chest and not its belly over left arm and its back should be gently

and softly supported by the palm of hands and its head by the two legs. The infant ought to be wiped dry with soft linen and laid first on the belly and then on the back (Ibne Sina, 1993; Lawrence, et al, 2015).

## **5. OROPHARYNGEAL AND NASAL CLEANING**

Majoosi mentioned the cleaning of palate with finger containing honey over it. Ibn-e sina advised to clean the nostrils with fingers, the nails of which are trimmed and few drips of olive oil to put into the eyes. Ibne-sina suggests putting few droplets of sweet oil into the nostrils because it cleanses the eyes and the lids (Majoosi AA, 1889; Ibne Sina, 1993). Oral secretions are cleared by clean cloth wrapped around index finger or by use of mucus extractor. The proper order for cleaning an infant's oral cavity is first cleaning the mouth, then the oropharynx and hypopharynx and finally the nasal cavity, using a suction catheter with gentle intermittent suction. This technique involves first cleaning the oro-pharyngeal cavity and thereafter the nasal cavity to avoid aspiration of secretions (Karam Singh et al, 2013; Lawrence, et al, 2015).

## **6. NEONATAL MASSAGE**

Unani system of medicine has emphasized on massage of new born babies. Ali Ibne Abbas Majoosi in his treatise *Kamilus-Sana* has mentioned that in male *babies'* massage should be done with force; so, by reaching the 4 months of age, their skin and muscles become strong. In female *babies'* massage should be done with soft hands by roghan banafsha which produces tarteeb (moistness) and girls need more tarteeb (moistness) (Majoosi AA, 1889).

Massage of newborn can be done with or without a lubricant to reduce the friction between the surfaces. The lubricant used can be oil or a powder. In India, Bangladesh, Nepal, and other nearby nations, massaging newborns is a customary practise. The most reliable metric linked to massage therapy in newborns is weight gain. Babies that get massage treatment seem more awake and sleep for shorter periods of time. On the Brazelton behaviour assessment scale, preterm infants who received massage therapy scored higher in the areas of "orientation," "range of state," "regulation of state," and "autonomic stability." (Anjali Kulkarni, et al, 2010).

## **7. SLEEPING QUARTERS**

Warm and airy, the nursery should be shadowy and gloomy instead of brilliant and glaring. The head should be kept slightly elevated while sleeping, and the body should not be twisted. (Majoosi AA, 1889; Ibne Sina, 1993; Kabeeruddin, YNM; Shah MH, 2007; Jurjāni I, 1896).

## **8. BREASTFEEDING**

The mother's breast should provide the newborn with nutrition to the greatest extent possible. The mother's milk, which is actually just another form of her menstrual blood, is naturally the most ideal for the baby's continued growth and development since it acquired its nutrients from it in the womb. It is commonly noticed that when a baby is breastfed, they become calm quickly. It is best to avoid breast feeding if the milk has a tendency to be sour. Squeeze out a small amount of milk before each feeding, but especially before the morning feed. This facilitates the flow of milk and spares the infant needless stress and effort. Giving the breasts a massage increases milk production. A little bit of crying prior to feedings is usually good for the infant. Avoid vegetables that are bad for lactation, such as watercress, mustard, wild basil, and to some extent, even mint. The nursing mother should avoid work and strenuous exercise, and she should have plenty of rest. She should drink sweet wines and grape juice and get lots of sleep if there are no contraindications. (Modanlou HD, 2008; Majoosi AA, 1889; Ibne Sina, 1993; Kabeeruddin, YNM; Shah MH, 2007; Jurjani I, 1896).

## **9. WEANING**

After the incisor teeth erupt, items that are not too hard or difficult to masticate should be gradually added to the milk feed. A typical nursing career should last two years. (Razi AMBZ, 1991; Ibne Sina, 1993; Kabeeruddin, YNM; Shah MH, 2007; Jurjani I, 1896).

### **Breast feeding to Newborn and child of the age up to 2 years**

The significance of breastfeeding for a child's health has been emphasized by prominent Unani doctors Rabban Tabri and Zakariya Razi. Two years is the typical length of time to breastfeed. Moderate amount of breast milk ought to be given to the baby (Majoosi AA, 1889; Ibne Hubal, 2005).

### **Instruction for lactating mother/ wet nurse**

Mothers are advised to consume a light, moderate diet that includes plenty of poultry and wheat or barley chapaati along with light exercise. Foods that are sweet, sour, and acrid should be avoided, such as garlic, onion, black mustard, spices, asafetida, celery, and anise should be avoided. Other hot, very sour, and caustic diets must to be avoided (Ṭabarī R, 2010; Kabiruddin M, 2015).

If the mother is unable to breastfeed the child, a wet nurse should be chosen based on factors such as age, physique, morality, milk quality, and the amount of time after the mother's delivery. Wet nurses should ideally be between the ages of 25 and 35.

They should also be of average build, deserving of commendation, and in excellent moral standing. Breastfeeding a kid when mentally unstable is forbidden by the Prophet Mohammad<sup>PBUH</sup>. (Saad, 2011).

### **Regimen for lactation and weaning:**

According to Ibn Sina, infant should be fed, as far as possible on mother's milk as it provides the nutriment required as per need of the infant. Breast feeding should be given few times a day but large duration is avoided in the early age. (Shah MH, 2007)

- Pressing the breast while feeding to avoid excessive exertion of the baby might lead to throat injury.
- To prevent churning of the milk in the baby's stomach, the cradle shouldn't be swung vigorously after feeding.
- Mild crying is beneficial before breast feeding.

Unani physicians have also advised to test consistency and quality of milk before feeding. Milk colour should be white with good odour, sweet in taste and uniform in consistency. If the above-mentioned qualities are not found, it may be improved by drugs and recommended diet. Mother must consume good food in terms of quality and quantity to avoid the nutritional deficiency, anemia, and lack of blood (Ibne Zuhr, 1986).

- Food consisting of barley water, grapes wheat, millet, soft meat and fish is given. Lettuce, radish, almonds and hazel nuts are also good (Ṭabarī R, 2010).
- Murattib and haar (moist and hot) Ghizae Dawai can be provided to lactating mother (Ibne Sina, 1993).
- Boiled water is given to child for drinking (Jamal MA, 2013).

## **10. LACTATION**

As per Ibn-Sina's treatise, Canon of Medicine, a newborn should be breast-fed mother's milk whenever feasible since it is more closely aligned nutritionally with what the infant got while still in the womb. The baby is accustomed to this milk and accepts it with ease. (Ibne Sina, 1993).

## **11. WEANING**

Milk feeding should be gradually augmented with foods that are not very hard or difficult to masticate after the incisor teeth erupt. A typical nursing career should last two years. (Modanlou HD, 2008; Ibne Sina, 1993).

Weaning must be gradual rather than abrupt. Light meals such as soups and bread, almond, and sugar cones are served. A dish made with rice, milk, sugar, and well-cooked chicken can also be given. Food is given after massage and wash (Ibne Hubal, 2005; Park, 2017).

## **12. CONCLUSION**

Children's bodies, temperaments, and temperatures are all outwardly delicate and lovely. They should maintain a highly balanced and reasonable temper as they grow since they react quickly and readily to events around them. Since Hippocrates' time, Greek and Arab scientists have established a number of guidelines for neonatal care. The fundamentals of newborn care have been explained in a very clear and concise manner by them. Their account established the groundwork for contemporary neonatology. Newborn mortality has declined as a result of recent technological and neonatal care advancements. However, it is important to acknowledge that Unani academics placed a high value on newborn care. The goal of Tadabeer Naumolod and Nigahdasht, as well as contemporary newborn care, is protecting the neonate.

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