



RAKSHAKARMA IN NEONATES WITH SPECIAL REFERENCE TO PREVENTIVE NEONATOLOGY

Jaiswal Neha¹

Ingole Suraj Nivrattirao²

^{1,2}Junior resident , Department of Kaumarbhritya, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh ,India.

ABSTRACT

Rakshakarma which means protective measures or preventive procedure. It is one of the important procedures extensively used and talked. Sushruta emphasizes in detail about the *Rakshakarma* in the management of wound, whereas Charaka and Vagbhata spoke about *Rakshakarma* especially during child care. Present neonatal care includes special aseptic measures to be adopted aiming to prevent any infection of the newborn. According to WHO report (2008),in India it is reported that 50-60% of all neonatal death occur within the first month of life due to poor aseptic technique practices in the labour room. Of these more than half may die during the first week of life. Every day 1500 women die from pregnancy or child birth-related complication. Right from the initiation of birth process, measures for sepsis and antisepsis such as clean hands, clean surface, use of sterile surgical instruments (blade/scissor), clean handling of the cord, use of surgical mask, gloves etc. are to be religiously followed until handling and resuscitation of the newborn baby. Appropriate hygiene is advised throughout the newborn care to decrease infection episodes during infancy.

Keywords: *Rakshakarma* ,Neonate, Sepsis, Resuscitation.

INTRODUCTION: *Rakshakarma* is a Sanskrit word which means protective measures. It is one of the important procedures extensively used and talked. Sushruta emphasizes in detail about the *Rakshakarma* in the management of wound, whereas Charaka and Vagbhata spoke about *Rakshakarma* especially during child care.

Present neonatal care includes special aseptic measures to be adopted aiming to prevent any infection of the newborn. Right from the initiation of birth process, measures for sepsis and antisepsis such as clean hands, clean surface, use of sterile surgical instruments (blade/scissor), clean handling of the cord, use of surgical mask, gloves etc. are to be religiously followed until handling and resuscitation of the newborn baby. Appropriate hygiene is

advised throughout the newborn care to decrease infection episodes during infancy. According to WHO report (2008),in India it is reported that 50-60%of all neonatal death occur within the first month of life due to poor aseptic technique practices in the labour room. Of these more than half may die during the first week of life. Every day 1500 women die from pregnancy or child birth-related complication. In 2005 there was an estimated 5, 36,000 maternal deaths worldwide. Most of the death occurs in developing countries due to home delivery and poor aseptic techniques. Data shows that less than two third (62%) of women in developing countries receive assistance from a skilled health worker when giving birth¹.

Aseptic technique is a set of specific practices and procedure performed under carefully control condition with the goal of

minimizing contamination by pathogen. Aseptic technique is employed to maximize and maintain asepsis, the absence of pathogenic organisms, in the clinical setting. Aseptic technique can be applied in any clinical setting. Pathogens may introduce infection through contact with the environment, personal or equipment. All patients are potentially vulnerable to infection, although certain situations further increase vulnerability, such as extrinsic burns or immune disorders that disturb the body natural defenses. Typical situations that call for aseptic measures include surgery, insertion of intravenous line, urinary catheter, drains and labour room setting.

AYURVEDIC REVIEW:

In Ayurveda, *Rakshakarma* has been described as under:

1. Under *Rakshakarma*, Acharya Charaka gives detailed description related to protection of newborn (*raksha karma*) related to antisepsis of beddings, clothing, and aseptic measures to prevent infections from surroundings. All around the labour room (*sutikagara*), the twigs of *adani*, *khadira*, *karkandu*, *pilu*, *parushaka* should be hung, and *sarshapa*, *atasi*, *tandula*, *kan-kanika* should be scattered on its floor. A packet containing *vacha*, *kustha*, *kshomka*, *hingu*, *sarsapa*, *atasi*, *lasuna*, *guggulu* etc. *rakshoghna dravyas* should be hung on the door and similar *dravyas* should be tied around the neck of mother and the child. Well wishing care taker women should remain vigilant and attentive in the *sutikagara* for the initial 10-12 days².

2. Acharya Sushruta directed the newborn to be wrapped in *kshauma* (linen) cloth and made to sleep on a bed covered with soft linen. Twigs of *pilu-badar-nimba-parushaka* are to be used to gently fan the

baby. A tampon impregnated with oil (*tailapichu*) should be applied over the baby's forehead daily. Fumigation with *rakshoghna dravyas* should be done in the *sutikagara*³.

3. Acharya Vagbhata described similar *rakshakarma* as described by Charaka in addition; Vagbhata had also counselled use of herbs such as *brahmi*, *indryana*, *jivaka* and *rishbhaka* to be tied around hands or neck of the newborn.

Vagbhata also mentions use of *balvacha* for it promotes *medha*, *smriti*, health and longevity of the baby^{4,5}. From the above description, it is evident that with respect to *rakshakarma*, Ayurvedic acharyas have advocated measures which aim to protect the newborn baby from various infections as in use of clean clothes, beddings etc. The fumigation of the *sutikagara* (sanatorium/labour room) by various drugs is mentioned to protect the baby from various opportunistic infections/diseases. The various drugs mentioned in *dhupana karma* have antiseptic and antimicrobial properties which have been proved so experimentally in various studies in recent times⁶. The concept of *Rakshakarma* in Ayurveda is quite efficient for providing a complete physical and psychological protective shield to the patient⁷.

Placing of herbs in ward room and tying it to neonate reduces chances of infection as these medicines have *rakshoghna* (anti-microbial) properties. Scattering of small seeds on floor serves similar purpose along with the practical benefit that insects find it difficult to crawl on such surface reducing chances of insect bite. Fumigation of the *sutikagara* by various drugs is mentioned to protect the baby from various opportunistic infections. Lighting of fire inside the ward room provided better visibility of neonate for its

care especially at night. Female attendants remaining awake at night are required for catering to needs of baby so that mother can have adequate rest. Offering of prayers are a form of *daivyapashraya* (divine) treatment which are a source of psychological support to mother and family. Also regular cleaning of the ward room prior to performing prayers serves to observe hygiene. Raksha karma is prescribed for at least ten days which includes early neonatal period, the most vulnerable time for a newborn. Keeping a large pestle obliquely at the entrance of *sutikagara* may serve as a no entry signal to avoid unnecessary overcrowding, thus checking potential source of contamination in baby's and mother's room.⁸

MODERN VIEW^{9,10,11}: The universal precaution to control infection which applied by all medical and para-medical staffs include the basic elements such as hand washing thoroughly with soap and water before the procedure. Strict asepsis during the delivery or operative procedure are practices "no touch technique" which is any instrument or part of instrument which is to be inserted in the cervical canal must not touch any non-sterile object or surface prior to insertion.

Sterilization or high level disinfection of instrument with meticulous attention should followed in the labour room .In case autoclaving is not possible, the instrument must be fully immersed in water in a covered container and boiled for at least 20 minutes. The nurse is the first health care provider who has direct contact with the neonate during birth .Hence nurses require the knowledge and skill to take care of the babies as well as in aseptic technique to prevent infection to both mother and baby, so that many complications can be prevented.

Hence keeping the above points in mind the researcher felt the need to assess the knowledge of labour room staffs on the practices of aseptic technique during labour.

Hand Hygiene:

1. Hand hygiene is required for all persons entering the department who will have contact with infants or nursery equipment.
2. The initial hand wash for caregivers should be done with an antimicrobial soap for 3 minutes if hands are soiled; otherwise an alcohol-based product is used.
3. Between each infant care, a fifteen second hand wash with soap and water or hand rub with alcohol- based product, is required.
4. Infants should never come into contact with the unwashed portion of the skin.
5. Before initial contact with the baby in the NICU, family members should perform a thorough hand wash with an antimicrobial soap.
6. Alcohol-based hand rubs are available in each room.

Traffic Control / Visitation:

1. Parents are educated about visitation policies prior to the birth of the infant.
2. The parents, grandparents, or a designated support person and siblings of infants will be admitted to that area following NICU visiting protocols.
3. Visitors are screened for infection.
4. Visitors with active infections should be excluded from the area with the following two exceptions:
 - a. Fathers with respiratory symptoms may wear a mask at the delivery but may not visit the baby in NICU. Other visitors with respiratory symptoms are excluded from visiting under any circumstances.
 - b. Parents and siblings may visit in the NICU with a mask if the infant is in critical condition.

c. A mother (not father or sibling) with active (non-dried) herpes simplex 1 infection may have contact with the infant. She is to wear a mask and be educated on the importance of hand hygiene before contact with the infant. No facial contact should occur.

Dress Requirements:

1. Those assigned to the care of babies will wear a clean uniform.
2. Hair which is shoulder length or longer must be tied back off the collar.
3. Long-sleeved cover gowns will be worn by those working with babies with drainage or infectious disease process, or whenever soiling may be likely.
4. Gowns are to be worn once and discarded.

Health Maintenance:

1. Sick calls are mandatory for:
 - a. symptoms of diarrhea or upper respiratory infection.
 - b. cold sores or fever blisters.
 - c. any lesion on the genitals or irritating vaginal discharge.
 - d. skin infection or pustular acne.
2. All of the above must be reported to Employee Health.
3. Associates may not return to work until the condition is resolved or is no longer infectious.

Daily Routines in NICU

1. Cord care will be given using water.
2. A bath is given every third day using a mild soap. The face, bottom, and hair are washed daily.
3. Strict asepsis will be maintained during all invasive procedures.
4. Infants should be held away from the face and hair of the care provider.
5. Personnel (Nursery or float staff) who have worked part of a shift in another area of the hospital are not to enter the patient care area unless they change into a clean

uniform or don a clean cover gown and perform a three-minute scrub.

Infant Feeding

1. Formula:
 - a. Mothers will be instructed to cleanse hands before receiving baby for formula feeding.
 - b. Formula products should be selected based on nutritional needs; alternatives to powdered forms should be chosen when possible.
 - c. Sterile water is used for reconstituting powdered forms.
 - d. Trained personnel prepares powdered formula under aseptic technique in the designated Nutrition room.
 - e. Manufacturer's instructions are followed; product should be refrigerated immediately (35-50° F) and discarded if not used within 24 hours after preparation.
 - f. The administration or "hang time" for continuous enteral feeding should not exceed 4 hours
 - g. Formula recalls are handled in a manner consistent with hospital policy for Product recalls.

2. Breast feeding-

1. Mothers will be instructed on nipple care as well as hand care.

Surgery

1. If a neonate requires surgery and is so critical he/she cannot be safely moved, with the consent of the neonatologist and surgeon, the surgery will be performed at the bedside. The following are parameters to be followed:
 - a. Personnel are attired and scrubbed in a manner consistent with the expectations of the operating room environment
 - b. Visitors are absent from the NICU room while the case is set up and occurring, until the time of wound closure
 - c. All NICU traffic in the area of the patient room is kept to a minimum

d. Informed consent includes notification of the increased risk of infection in this Circumstance and the rationale for performing it

Sterile Supplies

1. Supplies and trays will be wrapped in plastic protective covers and kept in cabinets or on carts.

Exception: Circumcision trays are packed in sterile wrap without plastic covers.

2. Supplies will be checked by the Support Tech for outdates and are checked for damaged covers at the time of use.

Medications

Multiple-use vials will be discarded after 72 hours or according to expiration date set by Pharmacy.

Clean Linen

1. Linen is stored in a closed cabinet or on a covered cart.

2. All infants will be supplied with linen supplies through the hospital laundry or brought clean from home.

Trash and Soiled Linen

1. Trash is emptied when cans become full and at specified times during the day.

2. Diapers and other heavily soiled disposable items are disposed of in impervious plastic bags.

3. Soiled linen is transported to the Soiled Hold and Laundry in an impervious plastic bag

Refrigerator

1. The refrigerators are used only for medication, expressed breast milk, and opened formula.

2. The freezer in is used for expressed milk. Staff food is not mixed with patient food.

Breast Feeding Supplies

Supplies that have direct contact with breast milk are washed by parents with soap after every use.

CONCLUSION: Rakshakarma, Ayurvedic acharyas have advocated

measures which aim to protect the newborn baby from various infection as in use of clean clothes, beddings. The fumigation of the *sutikagara* (sanatorium/labour room) by various drugs is mentioned to protect the baby from various opportunistic infections/ diseases. The various drugs mentioned in *dhupana karma* have antiseptic and antimicrobial properties which have been proved so experimentally in various studies in recent times. Present neonatal care includes special aseptic measures to be adopted aiming to prevent any infection of the newborn.

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Corresponding Author: Dr.Jaiswal Neha, Junior resident , Department of Kaumarbhritya, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh ,India.

Email:surajingole26@gmail.com

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