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TITLE OF THE ARTICLE: RAKSHAKARMA IN NAVAJATA: A REVIEW ON AYURVEDIC PREVENTIVE AND PROTECTIVE MEASURES IN NEWBORN CARE

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ABSTRACT
The term raksha is significantly described in sanskrit, ayurveda and vedas symbolizing protection and guardianship. Ayurveda classics emphasize rakshakarma in navajata avastha, designed to prevent neonatal disorders. Healthcare-associated infections pose a significant threat to neonates. To combat the alarming rise in neonatal mortality and morbidity due to poor aseptic techniques, NICU infections, and Labor ward infections, strict guidelines have been drafted. Additionally, if these guidelines are integrated with ayurvedic rakshakarma procedures could potentially prevent increasing neonatal mortality rate. This study employed literature research, conducting a comprehensive review of Ayurveda text, including brihatrayi and laghutrayi and electronic database, to elucidate the principles of rakshakarma in newborns. Result: As outlined in various ayurveda texts, rakshakarma procedures can be effectively adopted during navajata paricharya, sutikaghara and in kumaraghara. The usage of various rakshogna dravya, dhupana, bali, homa and manidharana to maintain a sterile environment and prevent secondary infection in both mother and child is also explored. The rationale behind following these rituals has been dealt with in detail. These procedures aim to ensure a safe and healthy transition and support the mother's recovery and newborn adaptation. They help to protect the newborn from graha roga and a range of health issues, ultimately promoting overall health and well-being. This review underscores the value of integrating rakshakarma into modern healthcare practices to improve outcomes in neonatal care.

KEYWORDS: Ayurveda, Kumaraghara, Navajata Paricharya, Rakshakarma, Sutikaghara.

INTRODUCTION
Rakshakarma, is a term comprising *raksha* meaning protection, and *karma* meaning action or function. Thus, it refers to the protective measures that safeguard and promote health nurturing the overall well-being of the child. *Ayurvedic* texts outline comprehensive *rakshakarma* protocols for neonatal care, encompassing *navajata shishu paricharya* (newborn care), *sutikaghar*a(Maternity ward) guidelines and *kumaraghara*(NICU and Pediatric ward) procedures.

These measures are designed to minimize the risk of cross-infections and foster a healthy environment.

Children are inherently more vulnerable to infections due to their *sukumarata* (delicate nature), *aparipakwa dhatu* (immature tissue development), *akleshasaha* (less threshold), *ajaatavyanjana* (underdeveloped immune system), *asampurnabala* (less strength) and dominance of *kapha* dosha.[1] As a result, even minimal exposure to pathogens might lead to infections. Therefore, implementation of *rakshakarma* (protective measures) is crucial to prevent and mitigate environmental infections specifically during the neonatal period.

The burden of healthcare-acquired infections (HAI) in newborns is alarmingly high in resource-constrained environments, with incidence rates 20 times greater than in developed nations. Poor environmental hygiene and insufficient compliance with infection control protocols are key drivers of this disparity, underscoring the urgent need for enhanced measures to protect vulnerable newborns and improve healthcare outcomes in these settings.[2] Hence by combining sterile protocols with *rakshakarma* can offer significant benefit in preventing hospital borne infection and reducing neonatal mortality.

Rakshakarma strategies during _navajata paricharya_ (Neonatal resuscitation)

Essential *rakshakarma* procedures are outlined in *navajata shishu paricharya* like *mukhavishodhana*, *kushta taila* application to *nabhi*, *snana* and *shastiratri* pooja. After *nabhi nala chedhana* (cutting of umbilical cord), the application of *kushta taila* to the umbilical stump is recommended to prevent *paka* (inflammation).[3] *Mukhavishodhana* (clearing airway) should be done by *vaidya* with a gauze by maintaining impeccable hand hygiene and ensure short and clean fingernails.[4] On the 6th day of birth, *rakshakarma* is performed through *bali* and *mantra*.[5]

Rationale of _rakshakarma_ during _navajata shishu paricharya_

These procedures shield the child from environmental pathogens and ensure aseptic precautions. The roots of *kushta* possess antiseptic, anti-inflammatory and disinfectant properties,[6] making them more effective against streptococcal infection of the umbilicus. Taking rigorous attention during *mukhavishodhana* guarantees safe and effective oral cleansing measures in newborns. Performing *shashtiratri* pooja, can way off *graha*, gram-negative infection and E coli. The umbilical cord typically falls off on the 5th day after birth, making it crucial to monitor for signs of cord sepsis or infection on 6th day. Also, physiological jaundice usually resolves by then, allowing for assessment of any persistent jaundice requiring further assessment. Thus, *Shashti ratri pooja* is given importance.

***Sutikagara rakshakarma vidhi*[7]**

Sugandha dravyas like *aadani*, *khadira*, *karkandhu* and *parushaka* should be suspended in the four corners of *sutikaghara* (post-natal room). Banabhatta's Kadambari book refers to the traditional practice of sprinkling mustard seeds in the delivery room during a queen's childbirth.[8] This ritual is also rooted in ayurveda where the floor is dusted with powders of *sarshapa*, *atasi*, *tandula* and *kanakanika*. It is essential to perform *homa* and *bali* rituals daily morning and evening to purify the air. Two large *musala*(pestles) are to be placed obliquely at the entrance of *sutikaghara* to serve as a symbolic barrier, restricting access. Various *rakshogna aoushadha pottali* (amulets) made from specific drugs like *vacha*, *kushta*, *kshomaka*, *hingu*, *sarshapa*, *atasi*, *lashuna*, *kanakanika* are hung on the door and tied around the neck of both mother and child. *Udakakumbha sthapana* (A pot filled with water), a fire lit using *tinduka kashta*, lamp filled with mustard oil are lit daily. To maintain the serene atmosphere, female attendants who are soft-spoken, friendly, and experienced in handling both mother and newborn ensuring gentle and compassionate care are allowed inside. They work tirelessly around the clock for 12 days and are expected to identify potential complications. *Vagbhata* recommends reciting the *mayuri*, *mahamayuri* and *arya ratnaketu mantra*, twice daily at dawn and dusk, within the precincts of *sutikaghara.* As outlined in *vranachikitsa*, *dhupana* is performed with *guggulu* and *shanti karma* is conducted for 10 consecutive days by brahmins well-versed in *Atharva veda.*[9] For fumigation, a dead crow dried in the sun is used in combination with *trivrit*, while *dhupana* can also be performed with *vacha*, *ghrita*, *kushta*, *sriveshta* and *sarshapa*.[10]

Rationale of _sutikagara rakshakarma vidhi_

Sugandha Dravya hung in the room serve as natural air purifiers, warding off harmful pathogens and creating a sterile environment. Dusting of floor with medicinal herbs acts as a natural disinfectant preventing pathogen entry. Regulating surrounding temperature is done to maintain optimal humidity and prevent hypothermia. Isolation and restricted access in the postnatal ward prevent secondary infection and cross-contamination from healthcare workers. Performing sacred rituals can counteract the influence of graha.

Rakshakarma for _Navajata shishu_ (Newborn baby)

Newborns require careful monitoring and strict aseptic precautions, akin to treating a *vranita* (wounded person), to safeguard their fragile health and prevent infection.[11] Everyday *snana*(bath) is advised with *panchavalkala kashaya*, *sarvagandha kashaya*, *rajata and swarnatapta jala*, *kapitha patra kashaya*.[3] After *snana*(bath), *dhupana*(fumigation) should be done with *rakshogna dravya*.[12] *Yogaratnakara* specifically recommends crow's feather dipped in *goghrita* for *dhupana*.[13] *Dhupana* with *yava*, *sarshapa*, *atasi*, *hingu*, *guggulu*, *vacha*, *vayasya*, *jatamamsi*, *ashoka*, *katuki*, *sarpanirmoka* and *ghrita* is also performed on various baby care articles such as clothing, bed, bed cover and cradles.[14] A cotton swab or cloth pad soaked in Sneha (Taila) should be gently placed in the ears daily. Regular changing of a newborn's soiled clothing, which may contain *mutra* (urine), *mala* (stool), or *sweda* (sweat), is crucial. These clothes should be thoroughly washed, dried, and then reused.[14] After *svastivachana*, the brahmin may apply the sacred medicinal ash to the baby's head, face, neck and body to ward off negative energies.[15] Baby should be placed and wrapped in *kshauma vastra* (soft linen cloth). *Rakshogna aoushadha pottali* (amulets) are made for babies to wear over their hands, feet, neck and head.[11]

Rationale of _rakshakarma_ in _Navajata Shishu_

Just like a wound, a newborn child is susceptible to deadly infection if not handled with aseptic precautions, emphasizing the critical need for careful and hygienic care during the vulnerable early stage of life. The aqueous and alcoholic extracts of medicinal drugs used for *snana* have anti-inflammatory, antibacterial, antiparasitic, antifungal and wound healing properties acting as protective barriers for skin. *Dhupana karma* serves as a natural and effective disinfectant and antimicrobial agent.[16] A groundbreaking study investigated the transmission of Staphylococcus aureus from contaminated blankets, shirts, and diapers to newborn infants. Notably, laundering them effectively

broke the transmission chain, preventing the spread of S. aureus to newborns.[17] *Dhupana* here prevents the transmission of such infectious agents. Newborns have sensitive skin which makes them vulnerable to skin problems. Trapped sweat and prolonged wetness can lead to bacterial growth, causing rashes and eczema.[18] To prevent such skin issues, it's essential to change their soiled clothing frequently, ensuring their skin remains dry and clean. Linen swaddling is a natural temperature regulator and is most breathable preventing overheating. Its moisture-wicking ability allows it to dry faster and prevents bacterial growth. The proximity of baby to mother, increases the risk of cross-infection. However, *rakshogna dravya* tied to baby and mother possess antiseptic and bactericidal properties preventing the growth and spread of microorganisms.[8]

Manidharana* in *Navajata shishu

Vagbhata recommends the usage of *vacha*(*Acorus calamus*), be worn on *hasta*(hand), *greeva*(neck) and wrist as a form of protection to the baby. This is believed to enhance *ayu*(longevity), *smriti*(memory) and *swasthya*(health).[19] *Atharva veda* also mentions the use of *vacha* as amulet to improve speech.[20] Certain medicinal plants such as *aindri* and *jeevaniya gana dravya* are prepared as *pottali* and made to be worn as an amulet. Wearing amulets made from horns of a living horse, ox, deer, rhinoceros, and ram around the neck is believed to possess unique energies and offer protection to newborns.[21] *Aryaparna sabari* and *Arya Aparajita*, sacred mantras are inscribed a *gorochana* and tied around the baby's neck and also to cot.[22]

Rationale of *Manidharana*

Vacha is considered a sacred amulet due to its trifecta of potent properties such as *rakshogna*, *jantugna* (anthelminthic) and *sanjnasthapana* (resuscitative).[23] The dried rhizome of *vacha* emits fragrance similar to milk truck (likely a sweet, creamy scent)[24] when exposed to sunlight.[25] This phenomenon is believed to enhance its protective effect, possibly by releasing bioactive compounds that offer physical shielding. By Adorning the horns of animals, the child is believed to harness and attract positive energy while also embodying the characteristics and symbolic powers of these animals. Research substantiating the usage of amulets revealed that 24.8 % wore amulets to avoid hostility and negative energy, 19.6% to obtain blessings, 6,8% to ward off evil spirits and 5.6 % ensuring longevity in children.[26] This fact underscores the continued significance of amulet-wearing as an integral part of modern society.

CONCLUSION

In conclusion, *rakshakarma*, an ancient ayurvedic practice, offers a wide range of utility in health care settings. The adoption of these practices in conjunction with modern aseptic techniques, in NICU, labor ward and in neonatal wards, can provide a critical solution in healthcare outcomes. Although some drugs mentioned in *rakshakarma* may be challenging to source, an adaptive approach can be employed by identifying alternatives with similar effects and can be utilized.

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