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Traditional and Scientific approach on post natal care: A Systematic Review

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ABSTRACT

During the post natal period several problems can occur in mothers and new borns where tradition and culture give impact on postnatal health. Therefore, the present review is undertaken to know the traditional practices related to postnatal care of Srilankan mothers related to herbal usage and emphasize scientific evidence Data were collected from informants via different part of Srilanka from the major threecommunities such as Tamils, Sinhalese and Muslims, reputed journals and websites such as MEDLINE, CINAHL, POPLINE and Global Index Medicus.Pubmed.Srilankan traditional practices strictly adopt the specific dietetics and regimen while mothers will not allow to have bath after childbirth for the next three days. However after the childbirth, the mother's body would be wiping with warm water for blood to flow better. Woman in the confinement period is also advised not to bathe in the early morning and evening as to avoid the 'wind' from entering the body and causing body aches and pains. During the herbal bath, the temperature of the water need to be warm to hot and with various types of herbs such as *Azadirachtaindica, Pavataindica, Gossepiumherbaceum and Vitexnigundo*. Plants contain valuable phytochemicals and antioxidant properties which play the major role for management of problems in post natal period.

Keywords: Herbal, new born, Phytochemicals Post natal period, Traditional.

INTRODUCTION

Postnatal period of time is defined as the interval commencement from the birth of the baby to six consecutive weeks. Postnatal care (PNC) is provided to women and newborn for the first six weeks after birth of the baby. [1]Since the health of mother is mostlyregarded as the health of the society, the effectivePNC services are essential for sake of mother and baby. Quality and timely management of post-natal care at the domestic level and health service is very important to prevent the complications and deaths of mothers and babies.The post-natal period is complicated and death of woman and new born baby may occur during the first 28 days after delivery. But the successful of PNC services depend on maternal age, educationallevel of the women, occupational status of women andhusbands, place of delivery, mode of delivery, number of parity, awareness about obstetric related danger sign, and awareness about PNC services. [2, 3, 4]Maternal mortality remains unacceptably high across much of the developingworld especially South Asia and Africa accounting for 87% of

maternal deaths. [5] But in Sri Lanka 36%. Annual estimation indicates 287,000maternal deaths occurred globally. [6] During the women life maternity period is very critical period even though the pregnancy is a physiological state.There is inevitably some blood loss and fluid loss may occur during the delivery which is tolerably by healthy mothers. But some mothers during labor remain for long duration without intake of food or drink, which can cause dehydrationof the body. This must be corrected immediately after giving birth. During the pregnant period, there are many physiological changes occurred in the body including uterus, heart, lungs, contents and volume of blood, size of the breast, hormones of reproductive system and immune system. In the post-natal period these changes have to adjust the pre pregnant state. Post-partumhemorrhage, localized infection, or disseminated infection, anemiaarecauses of death of mother in post natal period. Diarrhea, tetanus, neonatal infection, birth asphyxia, prematurity low birth weight, andcongenital abnormalities are common causes of death of babies [7] Breast feeding during first 6 months of newborn is very essential because breast milk provide several health benefits such as provide essential nutrition, increase immunity, bond with mother and baby , better growth and developments etc. Thereforesufficient milk product and breast feeding is important for nursing mothers. Some herbs, which boost the functions of mammary glandand promote milk secretions such as Shathavari, cumin seed, nut grass, fenugreek, garlic, and ginger[8] Culture plays an important role in human societies; every culture has its own system of medicine and its customs which may have significance influence on health. These cultural practices and beliefs are not the same throughout world, with vast variations in language, food habits, dress, economics condition, tradition, and beliefs.[9]Hence, an understanding of Srilankan traditional postnatal care practices is to develop and help the planners to formulate constructive intervention strategies and thus provide timely assistance to the mothers. Not all traditional practices, customs and beliefs are harmful; most of them have positive values[10] Therefore, the present review is undertaken to know the traditional practicesrelated to postnatal care of Srilankan mothers with scientific approach.In traditional or Siddha system of medicine post natal problems can manage through herbs and get satisfactions withfewer side effects. Therefore analyzing these herbs are essential and useful.WHO estimate that of the 35,000 -70,000 species of plants that are used for medicinal purpose around the world. [11] Among them some medicinal plants are discussed in details which are commonly used for postnatal care practices.Based on World Intellectual Property Organization (WIPO) traditional experiences are the apex of the of knowledge, skills and practices developed by the indigenous or local communities and are sustained as well as inherited from generation to generation within a community[12].This often becomes part of its practice of medicine cultural and spiritual believes. World Health Organization (WHO) defines traditional medicine as health practices, approaches, knowledge and beliefs incorporating herbal, metal, mineral and animal based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination, to prevent and diagnose the illnesses or maintain well-being. Hence traditional medicine based on traditional knowledge is a medical practice that has long existed in the community prior to the introduction and influence of modern medicine. Traditional knowledge and practices are keeping maintained worldwide among the various communities. Traditional medical science giving many impacts towards improving the health of the community by reflects their background and the origin of a culture. [13]The aim of the review is, therefore, to identify what specific diet and regimen is given to Srilankan women during the postnatal period, in order to provide better homely health care services to mother and baby by their family.

METHODOLOGY

The information was obtained from Sinhalese, Muslims traditions and customs key informers with hands on Traditional postnatal practices currently adopted in their villages and also the main search engines are MEDLINE, CINAHL, and POPLINE, Global Index Medicus, PubMed, meddler and Elsevier etc.

OBSERVATION AND DISCUSSION

The cultural practices are being followed among mother after delivery like specific food like *kayam*(*Hodda*),*Pathiyam* and Hip bath etc.In addition applying hot fomentation to back, usingwarm clothes, tying black thread, wrapping cloth belt around abdomen drinking some herbal preparation. These practices are not going to affect thehealth of the mother or the baby. They provide somerelaxation to mother and good sleep.Some of the cultural practices are very good such as consumption of fresh special hot food after delivery, drinking boiled warm waterare the safe remedy.

Allocating separate room for mother and child is user friendly environment for breast feeding as well reduce infections and also washing hands and legs before entering the room help to avoid the spread infection as newborns are at higher risk. Both mother and neonates are not allowed to go outsideafter late evening because they believe that evil powers (*Thodam)* are powerful in dark. Tying cloth belt around the abdomen will be helpful in reducing the obesity and involution of the uterus. Once the baby is delivered, these muscle neither contract immediately nor does the fat disappear. Cloth belt will give support to abdominal organs that are loose to get back to their position and to prevent the accumulation of fats.

SPECIFIC POSTNATAL DIET AND REGIMEN

Srilankan traditionalcustoms practices the special diet and regimen as follows:**"*Kayam*"**consist the following recipe

- Cumin- 2 part
- Pepper- 2 part
- Turmeric-1 part
- Garlic -2 part
- Dried ginger-2 part

The above ingredients are triturated in to paste form and given 15gm /day for a week.

"PATHIYAM" CURRY

- **Chief recipe**

Fish(otti-Sachidophilusovalis) or Milk shark (PaalSura-Rhizopronodonacutus)or Dry fish(Kattapaarai-Horse macklert) or young chicken or Drum stick

- **Other recipe:**

Coriander -25gm
Garlic-25gm
Cumin-25gm
Turmeric-05gm
Slightly toasted coconut flake-25gmthe ingredients are mixed together and grind it into paste form and mixed with main recipe and boil it for making *pathiyam* curry.

CHICKEN SOUP

- Young chicken - 300gm
- Garlic-25gm
- Cumin-25gm
- Turmeric-05g
- Ginger- 10gm
- Pepper - 05gm

REGIMEN

HERBAL BATH

- *Pavataindica*
- *Azadirachtaindica*
- *Vitexnegundo*
- *Gossipiumherbaceum*

HIP BATH

- *Azadirachtaindica* bark for hip bath on 15th and 17th day

COMMON MEDICINAL PLANTS IN SPECIFIC POSTNATAL DIETETICS

CUMIN (CUMINUM CYMINUM)

Cumin seed facilitates the secretion of milk from mammary glands and promote the lactation in nursing mothers.Therefore cumin powder has been using for increase milk production in nursing mothers in Srilanka and India[14]Rich source of iron helps to promote the iron level of the body. Seed is generally recognized assafe flavoringspice by the U. S. food and drug administration. .Therefore proper amount of cumin seed powder is useful for mothers who are in post natal period.A cumin seed contain volatile oil cuminaldehyde and other aldehydes, flavonoids and terpenes. Seeds also contain various nutrients such as Iron,potassium, calcium, selenium, copper,manganese and vitamins, which are natural immune booster and rejuvenator for skin. Cumin contain vitamin E, which gives anti-oxidant properties and it remove free radicals and prevent age related diseases and ageing process. Cumin possess high potassium level which regulate the blood pressure. Seed of cumin helps to get rid of acidity and bloating of abdomen and indigestion and stimulates the secretion of digestive enzymes and promote the digestion. [15].

TURMERIC (CURCUMA LONGA)

Therhizomatic root is used for medicinal and culinary purpose which is a queen of spices. It consist of main bio active compound iscurcumin, Ithas rich antioxidant and anti-inflammatory property. Curcumin is a strong antioxidant which is not only preventing oxidation in the body but also triggers release of antioxidant enzymes to maintain the antioxidant or free radical balance of the body. [16] Curcumin can help to protect mothers from damage and distress of the body through antioxidant activity.Turmeric can help in reducing postnatalpain and soreness due to itsanti-inflammatory action.

Curcumin has been found to be a natural immune modulating agent[17]which boost immunity of the mother and newborn baby. Turmeric also contains antibacterial and antiviral properties. Curcumin will help to activate hormones that improve brain function and memory and also found to help with stress, anxiety and depression. Research study shown that curcumin help with stress, anxiety and depression. [18]Turmeric promotes secretion of digestive enzymes and act as carminative by eliminating gases in gastro intestinal tract. Therefore turmeric powder is very beneficial for mothers during the post natal period. Nursing mothers are encouraged to have glass of milk with turmeric powder [goldenmilk] during the first 3 months of postnatal period. Turmeric powder is the component of a paste applied to the engorged breast and sore nipple.

GINGER (ZINGIBER OFFICINALE)

Zingiberofficinale belongs to Zingiberaceaefamily.The rhizome is the part used in medicine and also popular and healthy spice for all culinary purpose. Common name is ginger, has very long history in medicinal use in Srilanka, India and Middle East countries. Shaopeng et al mentioned that main chief constituent of ginger is gingerol, responsible for medicinal effect like powerful anti-inflammatory and antioxidant properties.[19].Ginger as a natural herb is used to promote milk secretion in early post natal period.[20]Ginger speed up emptying of stomach and improve digestion. Consuming ginger may ease colic in new born. Saliva contains digestive enzyme amylase and ginger also contains digestive enzyme called zingibain, both enzymes promote the digestion in mother and new born baby [21, 22] Fresh ginger helpto lower the risk of infection and inhibit the growth of bacteria [23].Therefore using ginger is very beneficial during this period, because it promote digestion, and increase milk secretion and reduces body pain in post natal period. Dry ginger has been shown to be effective to reduce exercise induced muscular pain. [24].

PEPPER (PIPER NIGRAM)

Piper nigram belongs to Piperaceae family which is one of the most commonly used spices in the world. Therefore it is called black gold or king of spice. Pepper seed is useful during postnatal period because it promotesdigestion via increase the gastric secretion in the stomach and also good carminative in nature.Piperine is the chief constituent which is responsible for its spiciness and medicinal effect. Give high nutritional value and help to increase absorption of curcumin, according to the USDA National nutrition data base it contains minerals like Potassium, calcium , magnesium ,Phosphorus , sodium as well as vitamins such as vitamin B_6 thiamine, riboflavin ,and niacin.Piper nigrum act as Galactagogue, sialagogue, diuretic and Uterine tonic.Black pepper contain rich plant compound piperine, which is antioxidant[25]..Piperine may help improve carbohydrate metabolism and piperine and other compound of pepper significantly improveinsulin sensitivity in obese persons [26].

GARLIC (ALLIUM SATIVA)

Garlic is one of popular herbs, belongs to Alliaceaea family .Garlic is an important spice which has pungent smell and sharp flavour. It is highly nutritious and have manganese, selenium, vitamin B 6, B1 and vitamin C, trace amount of calcium, sulphur, copper, potassium, phosphorus, and iron. The nutrition improve the functions of the body in nursing mothers.Garlic promote the appetite and stimulates milk production in nursing mothers. Further active compounds in garlic enters the breast milk and strengthen the immune system in baby.The infants prefer the milk from who have consumed garlic because it has galactogogue, carminative and digestive activity[27a,b] Bulb is odoriferous and contains the active ingredient allicin, diallyldisulphide and S- allyl cysteine. Garlic boosts the immune system innursing mothers and babies. Several human studies found garlic has a significant impact on reducing Blood pressure, total and LDL cholesterol. But no reliable effect on Triglyceride level and HDL. High dose of garlic supplements have been shown to increase antioxidant enzymes in human as well as significantlyreduce oxidative stress in those with high blood pressure. The combined effects on reducing cholesterol and blood pressure as well as the anti-oxidant activity may reduce the risk of depression.

GINGELLY(SESAMUM INDICUM)

Gingelly seed is popular nutritious seed, belong to Pedaliaceae family. Gingelly oil also called healthy culinary oil, sesame oil andpossess medicinal properties. In Srilanka gingerly oil is used both internal as cooking oil and external application for body and hairs. Sesame oil contain sesamol and sesaminol both are strong anti-oxidant and possessanti-inflammatory actions[28].its anti-oxidant activity and anti-inflammatoryactivity, it may benefits theheart, joints, muscles and skin

which has healthy fat and consist of rich anti-oxidant. Therefore it reduce the oxidative stress and supports cardiovascular health. Vitamin E is one of the key nutrients protect against brain cell damage and age related DNA damage.Sesame oil is highly nutritious, naturallyhas anti-inflammatoryactivity, wound healing activity anti-anxiety and also reduce body pain. Therefore useful in period of post natal care. Gingerly seed contain Vitamin E in abundance, and vitamin B complex and vitamin A, which help nourish and rejuvenate the skin and body. B complex found in sesame seeds are niacin, folic acid thiamin, pyridoxine and riboflavinand also an excellent source of omega 3 and omega 6 essential fatty acids. Folic acid is essential for DNA synthesis, which is need for pregnant mothers and mothers who are in pre conception period. Niacin reduces LDL, cholesterol level in blood and also enhances GABA activity. In the brain, which helps to reduce anxiety and neurosis.Furthermore vitamin E prevent harmful effect on free radicals in the body.It may improve cognitive performance and delaying the age process.One ounce sesame seed oil provides more than 5% daily requirement of vitamin K and 2% of vitamin E [29]

SATHAVARI (ASPARAGUS RACEMOSUS)

Asparagas is common medicinalplant belongs to Asparagaceae family and highly nutritiousplant. Root, and leaves are commonly using for medicinal purpose. It contains trace mineral like zinc, manganese, selenium, potassium, copper, cobalt, calcium, magnesium and vitamins like vitamin A and vitamin C.Nathai et al reported from research study mentioned that root of Asparagas contain new anti-oxidant called racemofuran was identified and other antioxidants are asperagamine A and racemosal.Racemofuron has significant anti-inflammatory effect. Anti-oxidant found in Asparagaswhich can fight against free radicals in the body that prevent ageing and cell damage and inflammation of the tissues. Anti-oxidant found in Asparagashave strong anti-depression activity .The root of the plant is well known part to increase milk production in lactating mothers. Asparagus promote the production of corticoids and prolactin, which improve the quality and quantity of milk productionand increase size of the breast in lactating mothers. Asparagus plant boosts the immune system which prevents puerperal sepsis and other infections. It also prevents postpartum depression which often occurs in nursing mothers [30]. 3-6 gm. is effective dose of Asparagus powder.Therefore this plant root is very useful in mothers in postnatal periods.

NUT GRASS (CYPERUSROTUNDUS)

Nut grass is the plant resemble grass belongs to Cyperaceae family which has tuberous root that are fragrant .Tuber of the plant is high medicinal value which has analgesic, antibacterial, lithotriptic,emenogogue, tonic digestive andvermifuge.Tuber is effective forboosts milk production during breast feeding, dysentery,fever and skin disorders. External application of raw tuber paste is effective for increase milk production in nursing mothers. Decoction prepared from this tuber is effective for swelling and pus discharge from the breast. This plant is effective for purifying the blood thereby increasing immunity. Tuber is useful in treatment of diarrhea, dysentery, intestinal parasites and indigestion. The essential oil of root of nut grass has anti-microbial activity againstEscheria coli, Pseudomonas, Aeruginosa and staphylococcus aurius, candida, parapsilosis, Aspergillusflavus, Aspergillusfumigatus and Fusariumoxysporum[31].

FENUGREEK (TRIGONELLAFOENUM–GRAECUM)

Fenugreek is aherb belongs to Fabaceae family which is also commonly used culinary medicinalplants. Its leaves and seeds are used for medicinal and culinary purpose. Fenugreek seeds are commonly used for increase milk secretion in nursing mothers. Turkyil et al reported that breast milk volume was significantly increased in group that consume fenugreek tea and their infants regained their body weight earlier,as compared to placebo group and a control group.[32] It has several pharmacological actions such as laxative, diuretics, demulcent refrigerant, aphrodisiac, carminatives and tonic, antidiabetic anti carcinogenic hypercholesterolemia, antioxidant and immune modulator activities.[33]Fenugreekis a bitter taste seed which provide high nutrition, reduce heart burn and constipation[34]. Sprouted seeds taste became sweat which used as tolower the PPBS, FBS [35]

SPECIFIC POSTNATAL HERBAL BATH AND MASSAGE

Srilankan traditional practices will not allow mother to have bath after childbirth for the next three days. However after the childbirth, the mother's body would be wiped with warm water for blood to flow better. Woman in the confinement period is also advised not to bathe in the early morning and evening as to avoid the 'wind' from entering the body and causing body aches and pains. During the herbal bath, the temperature of the water need to be warm to hot

and with various types of herbs such as *Azadirachtaindica, Pavataindica, Gossepiumherbaceum and Vitexnigundo are* the commonly used medicinal plants. At the same time, simple massage in the water is performed with the help of boiled and crushed leaves of above said plants on the woman's body so as to soften all the dhathus and strained muscles during the process of giving birth. Massageperformed by elderly women after child birth is to accelerate blood flow because it is believed that after giving birth, the blood flow in the woman's body slows down and will cause her to experience body pain and numbness. The most important part of the body is in the nerves and muscle of the thigh, hip and the back are to be massaged [36]

NEEM (AZADIRACHTA INDICA)

Neem is large branched tree growing in tropical and semitropical region. Commonly known as neem, which is belongs to Meliaceaefamily. Neem leaves and barks are used for hip bath and herbal bath during postnatal period. It is attributed to its purification effect on blood. It is suggested tobe an antibacterial, anthelminthic antiviral anticancer and immune modulator. Neem can proved useful in detoxification of the body both internally and externally. Consumption of leaves powder internally stimulates the liver and kidney and increase metabolism and eliminating toxins out of the body and also reduces the blood sugar level. Externally remove the bacteria, viral and fungalinfections. Neem has known antibacterial effect,therefore it play major role inboosting immunity .leaves or barks have antiseptic effect which useful to healing wound, rashes and also reduce body pain[37]

NIRGUNRY (VITEX NEGUNDO)

Vitexnegundo is evergreen small tree. Commonly called nirgunry or five leaves chaste, which has rich medicinal properties. Common actions are analgesic, anti-inflammatory, anthelminthic, anti-asthmatic,anti-catarrhal andanti-microbial muscular relaxant, carminative and hepato protective. These leaves stimulate the blood circulation and reduce pain and inflammation of muscles and joints.This leaves are very useful in both internal as well as external for arthritis.Therefore herbal bath with neemleaves, five leaves chaste, Ricinus and pavattaiare beneficial afterdelivered mothers who are having body pain [38]

PAVATTAI(PAVATA INDICA)

Pavataindica is an evergreen shrub or small plant which grow 3-5 meter tall, belongs to Rubiaceae family. Commonly found in agriculture lands. Common name is Indian pavatta. The leaves shoots, roots has been used for medicinal purpose .The leaves are used for treatment of liver dysfunction, urinary problems and arthritis. Mandel et al stated that extract of leaves have been reported as antipyretic and anti-inflammatory action [39]. Another researcher reported the leaf showed antibacterial, antiviral anti-malarialand analgesic activity on laboratory animals [40]

COTTON (GOSSYPIUM HERBACEUM)

The principle pigment of cotton seed is gossypol which is a phenolic compound that was first isolated in 1899.The cotton seed contained steroids, flavonoids, protein, amino acids, sugars and saponinswhile, *Gossypiumherbaceum* root contained starch, tannin, phenols, saponin and carbohydrates[41]. Root decoction was used for asthma, diarrhea, and dysentery. Root bark, devoid of tannin, astringent, anti-hemorrhoid used as an emmenagogue, hemostat, lactagogue, oxytocic, parturient, and vasoconstrictor. Gossypol was used in China as a male contraceptive[42]. Root decoction was used for the treatment of asthma, diarrhea, and dysentery. Root bark was used to stimulate secretion of breast milk. Seeds were used for the treatment of swelling and ulceration of female organs, and urinary diseases. Extract of seed was used for the treatment of fungal infections.Leaves; root and seeds of *Gossypiumherbaceum* were used to augment labor, in retention of placenta and as emmenagogue [43]

CONCLUSION

This review provides evidence that what matters to women in the postnatal period is achieving positive motherhood by fulfilling adaptation to changed intimate and family relationships, and regaining health and wellbeing for both their baby.Traditional postnatal practices have significant implications for the provision of culturally competent healthcare. At the individual health care provider level are passed on from elders to youth since generations**,** they are part of our society, hence moredeeply respectable and deeply rooted.The Medicinal plants which used for culinary purposes possess various bioactive phytochemicals which address the many health benefits during postnatal period.Cultural practices are passed on from elders to youthsince generations. Health professionals should be aware of the patients'cultureand which traditional belief complements professional care.Healthcare providers should also advise and

educate womenabout the importance of adhering to the standard practice of postnatal care.

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