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Plants Used for Traditional Medicine during Pregnancy, Childbirth, and Postpartum Care by Chuktia Bhunjia Tribe of Nuapada District, Odisha

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ABSTRACT

The use of medicinal plant species against a wide range of diseases has a long history in human civilization, which dates back to the time when people were seeking remedies in their surroundings to help them recover from illness. Activities and diet during the postpartum period are culturally dictated in many tribal cultures and a period of confinement is observed. Plants play an important role in diet and traditional medicine recovery postpartum. Little is known of the Chuktia Bhunjia, a particularly vulnerable tribal group (PVTG) who lives in Sunabeda village of Nuapada District. The primary objective is to identify the use of plants during pregnancy, parturition, postpartum recovery, and infant healthcare.

INTRODUCTION

The use of plant-based drugs and chemicals for curing various ailments and personal adornment is as old as human civilization. In India, the sacred Vedas dating back between 3500 B.C and 800 B.C give many references to medicinal plants. One of the remotest works in traditional herbal medicine is "Virikshayurveda", compiled even before the beginning of the Christian era and formed the basis of medicinal studies in ancient India. "Rig Veda", one of the oldest pieces of Indian works of literature written around 2000 B.C. mentions the use of Cinnamon (Cinnamomum verum Prel.), Ginger (*Zingiber officinale* Rose.), Sandalwood (*Santalum album* L.) etc. not only in religious ceremonies but also in medical preparation (Bentley and Trimen, 1980). Plants and plant-based medicaments are the basis of many of the modern pharmaceuticals we use today for our various ailments (Abraham J. and Thomas, T.D., 2012; Kapoor, L.D., 2017). At one time, nearly all medicines were derived from biological resources. Even today they remain vital and as much as 67%-70% of modern medicines are derived from natural products (State of the Environment Report, 2001).

Nearly 80% of the world's population relies on traditional medicines for primary health care, most of which involve the use of plant extracts (Sandhya et al., 2006). WHO had earlier estimated that the usage of traditional medicine for primary healthcare in developing countries is 80% most of which involve the use of plant extracts (WHO1991; WHO 2007). Herbal

medicine and phytotherapy are still used in many regions of the world, even though allopathic medicine has produced several therapeutic substances (Sandhya et al., 2006).

Medicinal plants have a significant role during pregnancy, birth, and postpartum care in many rural areas of the world. Plants used in women's health-related conditions such as female fertility, menorrhea, birth control, pregnancy, birth (parturition), postpartum (puerperium), and lactation, including infant care, have been documented for various ethnic groups (Liulan et al.,2003; Jain et al, 2004).

These cultural traditions, such as postpartum confinement, steam baths, and food taboos, are widespread in the Chuktia Bhunjia community and form the core of primary maternity healthcare in many rural areas in Sunabeda. In the context of the introduction and modernization of primary healthcare systems in rural areas, and with training programs for traditional birth attendants focusing on the paradigms of Western medicine, this traditional knowledge has often been ignored (Jordan, B., 1992). Erosion and deterioration of traditional medical knowledge can be observed in many cultures and leads not only to a loss in biocultural diversity but also diversity in alternatives for primary healthcare (Maffi, L., 2005). Documenting the use of plants and elements of traditional birth practices by ethnic minorities is not only an important aspect of understanding and analyzing these practices, but a way to perpetuate knowledge at risk of being lost.

2. Tribal Profile:

A lesser-known tribe, the Bhunjia is divided into two clans, the Chuktia and Chinda Bhunjias. The tribe is believed to be formed from offshoot groups of the Halba, Gond, and Baiga. The Chuktia Bhunjias are culturally distinct in the construction of a sacred kitchen shed, separated from the main dwelling building. Cock fighting is a major sport and is held at weekly markets. The annual fairs of Dashera, seeds sanctification, and mahua collection are occasions for celebration. Apart from wet and shifting agriculture, they also engage in fishing and the collection of minor forest produce besides rearing cattle and wage earning. Animals are reared mainly for sacrificial purposes. Bamboo is also collected and woven into fishing baskets and grain bins for personal use.

As per the 2007 Survey, the population of the chuktia bhunjia in the CBDA, Sunabeda Micro project area was 2269 (Male 1124 and Female 1145). The growth rate among them during the period 2001-2007 was 3.96 percent. The sex ratio is 1018 females per 1000 males. The literacy among them was 18.77 percent (28.55 percent for males and 9.17 percent for females) (Ota, A.B. and Sahoo, T., 2020).

Chukatia Bhunjia everyday life involves ritual taboos to which people are also subject, notably the prohibition of visiting certain people, at certain times, in certain houses. For example, when a woman is menstruating, she is prohibited from going to the kitchen (Lal Bangla) At these times she sleeps in a separate hut. For example, no man is allowed to be in the house during childbirth until his infection is resolved by a formal ritual.

The study provides a detailed overview of medicinal plant species used in women's healthcare; and describes the unique cultural traditions surrounding pregnancy, childbirth, and postpartum recovery observed by this group of people.

Fig.1.Pregnant women of Chuktia Bhunjia tribe

Fig.2.While giving medicinal plant juice to pregnant women

Study area:

Nuapada located in the western part of Odisha lies between 20° 0' N to 21° 5' N latitudes and between 82° 20' E to 82° 53' E longitudes. Its boundaries extend in the north, west, and south to Raipur district in Chhattisgarh and in the east to Bargarh, Balangir, and Kalahandi districts. This district is spread over an area of 3852 Sq.kms (2.47% of the state) and has a forest cover of 1849.69 Sq.kms(48%)of the total area3,852 Sq.kms (District statistical book Nuapada,2005). The forest is of dry deciduous type has rich Phyto-diversity and is abode to a large number of medicinal plants. The population of the district is 5,30,690 as per the 2001 Census of India out of 184221(34.71%) are scheduled tribes.

The Prominent among them are Gond (65.76%), Sabars (11.36%), Saora (4.92%), Luhuras, Chinda Bhunjia, Binjhals, Kharia, Konmdhaand Paharias (STSCRTI,1990). Nuapada is considered as the homeland of the Bhunjias. 75 % of the total population of this tribe lives here. Chuktia Bhunjia is the only primitive group (PVTG) found in the Nuapada district. Bhunjias, are an ethnic group found in India that mainly reside in the Sunabeda Plateau in Odisha and Chhattisgarh.

The tribal-dominated villages located in isolated pockets in the forest ecosystem of the district have limited livelihood options and mainly depend on forests for their earning and medicinal requirements (Kandi et al.,2013).

Table 1: Demographic data of Chuktia Bhunjia Tribes

Demographic Items	Frequency(N=200)	Percentage (%)
Age		
20-30	120	60
31-40	45	22.5

41-50	35	17.5
Marital Status		
Married	144	72
Widow	56	28
Education Qualification		
Illiterate	170	85
+2orbelow	18	9
Graduate	12	6

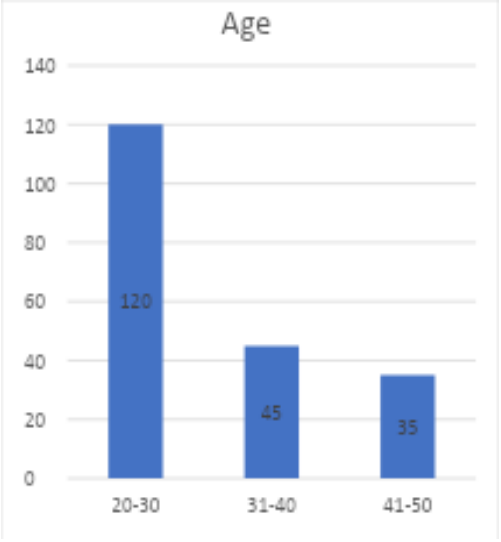

Fig.3.Age of tribal women

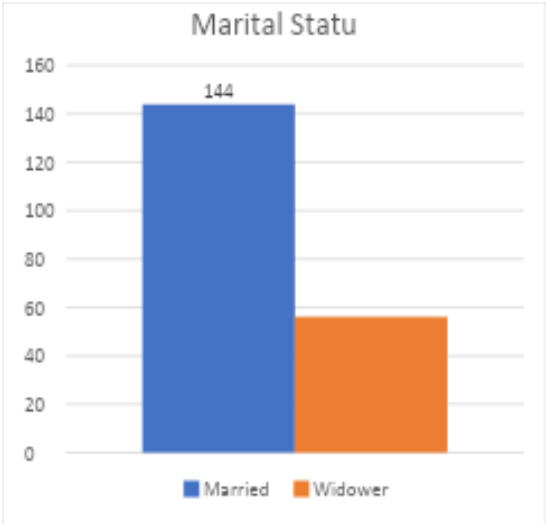

Fig.4.Marital status of tribal women

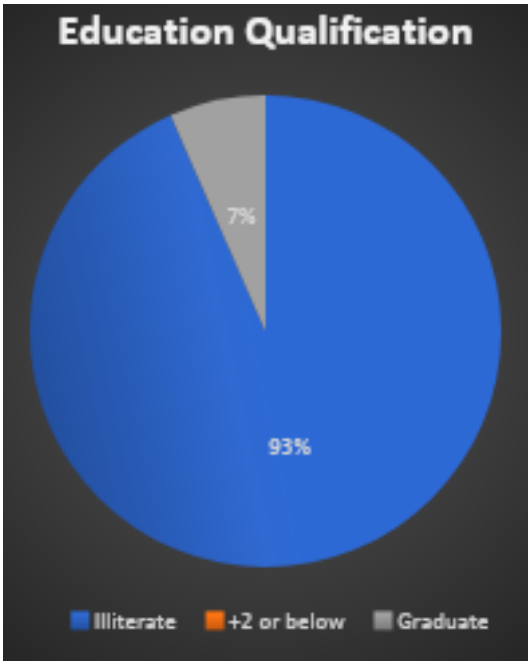

Fig.5. Educational Status of Chuktia Bhunjia tribe

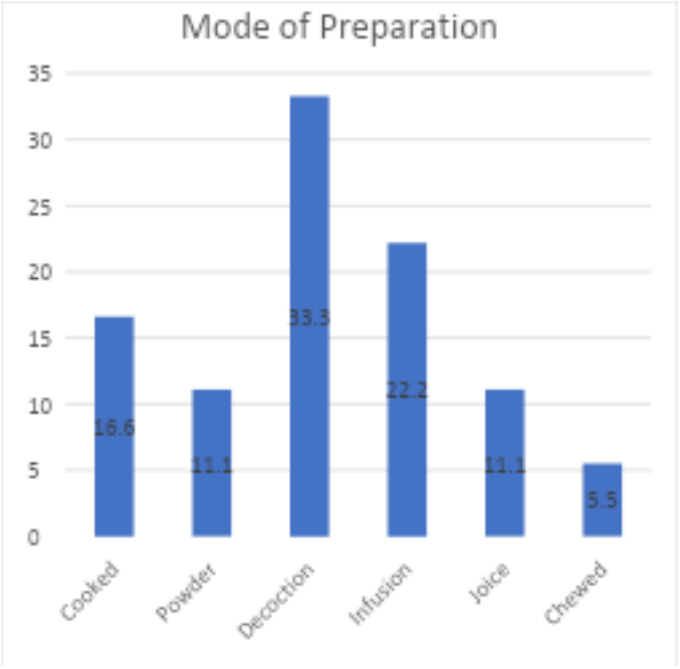

Fig.6. Mode of preparation

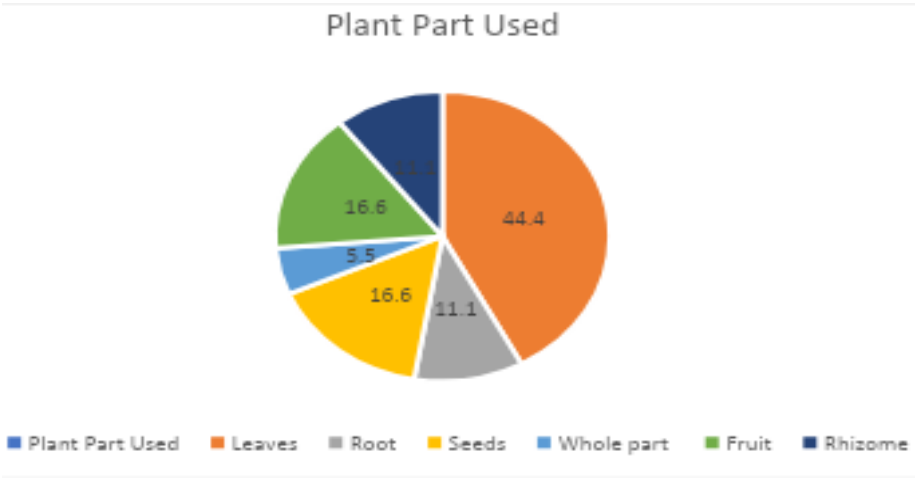

Fig.7. Plant part used by Chuktia Bhunjia tribe

4. Methodology:

Extensive surveys were done from April to September 2023 to document the use of plants by local communities within the study area. Women interviews were conducted with individuals and groups, such as herbal practitioners and elderly persons, traditional birth attendants known to possess knowledge about medicinal plants. The interviews were a relatively open framework that allowed and encouraged focused, conservational, two-way communication about medicinal plants and medicinal plant use among those being interviewed.

All interviews were performed in the local language. Throughout the interviews, information was collected on plant species, the usable plant part, and the medicinal preparation. The plant dealers, the elderly woman is known as Kabiraj, and the herbalist "VAIDYAS". Since these medications made it difficult to get at the truth directly, indirect means were used to learn about their most common illnesses and potential remedies.

Table 2: List of medicinal plants used during pregnancy, Childbirth, And Postpartum

Scientific name/ Family	Local Name	Habit	Part used	Preparation	Disease treated
Moringa oleifera / Moringaceae	Muguna	Tree	Leaves	Cooked	Consumption of Moringa leaf during pregnancy increases iron levels and prevents anemia during pregnancy.
Achyranthes aspera/ Amaranthaceae	Kukurdatti	Herb	Root	Powder	Facilitate easy delivery
Amaranthus viridis /Amaranthaceae	Leutia	Herb	Seed	Cooked	Relieves labor pain
Chenopodium album /Amaranthaceae	Bathua	Herb	Leaves	Decoction	Weakness
Chinopodium botry /Amaranthaceae	Tikhodi	Herb	Whole part	Decoction	Relieves labor pain
Coriandrum sativum /Apiaceae	Dhania	Herb	Fruits	Decoction	Swelling of feet and ankle
Cocos nucifera /Arecaceae	Nadia	Tree	Fruits	water	Promote both maternal and fetal health
Zingiber officinalis / Zingiberaceae	Ada	Herb	Rhizome	Decoction	Relieves vomiting
Macrotyl omauniflorum / Fabaceae	Kolatha	Herb	Seed	Cooked	Recovery of blood level
Butea monosperma / Fabaceae	Palsa	tree	Rhizome& leaves	Decoction	Healthy for both mother and child
Canavis sativa /Cannabaceae	Ganjei	Herb	leaves	Infusion	Relieves labor pain
Mentha piperita	Pudina	Herb	Leaf	Infusion	Induce labor pain

/Lamiaceae					
Punica granatum /Lythraceae	Dalimba	Tree	Fruit	Juice	Cure Weakness
Oxalis corniculata /Oxalidaceae	Amliti	Herb	Leaf	chewed	Chewed Vomiting
Papaver sommineferum /Papaveraceae	Khusi	Herb	Seed	Powder	Weakness during pregnancy
Rauvolfia surpentina /Apocynaceae	Bhuinkuruwa	Shrub	Root	Decoction	Facilitate early delivery
Eclipta prostrata /Asteraceae	Bhrungraj	Herb	Leaf	Juice	Induce abortion
Pergularia daemia /Asclepiadaceae	Utrudi	Climber	Leaf	Juice	For Pregnancy

5. Dependency on Traditional Medical care:

The findings reveal that women with lower literacy levels and those opting for institutional deliveries tend to rely on a combination of modern and traditional medicines. Specifically, Chuktia Bhunjia women utilize medicinal plants such as kaya bark (*Terminalia arjuna*) and satavari (*Asparagus racemosus*) roots for safe delivery. Additionally, they incorporate horse gram (*Macrotyloma uniflorum*) to replenish blood and alleviate weakness. Dietary restrictions are prevalent during antenatal care (ANC), with the avoidance of bananas, raw fruits, and black pepper to prevent pregnancy. Coconut oil and indigenous jaggery are commonly consumed for both prenatal and postnatal care and are also applied after cutting the umbilical cord of a newborn—a traditional practice believed to hasten recovery, acting as a preventive measure against tetanus.

Notably, approximately 80% of individuals, as reported by elders and traditional birth attendants, prefer seeking treatment from traditional healers for various ailments. In instances of family illness, tribal communities tend to turn to traditional healers as a first resort, foregoing visits to doctors in hospitals.

a) Application of the Health Belief Model:

Many families do not know the severity and seriousness of pneumonia, malaria, or any delivery-related complications. They perceive any disease as an evil eye and go to traditional healers for treatment, as they trust them and have easy access. Also, it is a practice among tribals that if the person cannot be treated by traditional healers, they go to the hospital for further treatment. These tribal communities have good knowledge of traditional medicinal plants.

b) Dependent on knowledge and socio-cultural beliefs about illness:

The analysis suggests that most tribal families rely heavily on traditional healers to address various health concerns. In instances where a pregnant woman or a child falls ill, the family's initial course of action is to seek treatment from a traditional healer. For instance, if a child is experiencing a fever, the family is likely to take the child to a traditional healer, attributing the illness to a potential evil eye. The traditional healer, in response, would typically perform a treatment known as 'judafunka' on the child.

c) Belief in traditional healers:

Tribal communities rely on socio-cultural beliefs Thus Many families do not go to the hospital despite the condition of a pregnant woman, or a sick child In-depth interview conducted among Chuktia Bhunjia women expressed their distrust of health services and health workers. Displaced women lacked knowledge about the consequences of malaria, yellow fever, or anemia during pregnancy.

d) Fear of institutional delivery:

The Chuktia Bhunjia community holds firm convictions in their traditional customs. Research indicates that tribal women from the Chuktia Bhunjia group express a preference for delivering babies at home instead of opting for hospital births. This preference stems from their belief in the safety of home births, facilitated by the expertise of mothers-in-law and traditional birth attendants. Some women in the community express a sense of deprivation as modern medical facilities become more prevalent, feeling that the traditional childbirth methods, relied upon for generations, are diminishing. Consequently, there is hesitancy among women to embrace modern medical services, driven by a fear of deviating from the traditional practices they hold dear.

e) Lack of knowledge on emergency referral:

Pregnancy is considered a natural phenomenon among the Chuktia Bhunjia community, and the survival of the child is considered the will of God. Most tribal people rely on traditional medicine for most ailments. They rely on socio-cultural beliefs on fertility Moreover, non-use of contraceptives also leads to repeated pregnancies. Many women lack knowledge of emergency referrals and do not see a doctor despite two to three pregnancies or neonatal deaths. During the interviews, many women said that they did not like modern birth control methods such as sterilization or using a Copper-T (a small intrauterine device that comes in a T-shape and is inserted into the uterus to prevent pregnancy). Lateral reaction. For birth control, they rely on the seeds of the traditional medicinal plant Abrus precautious.

f) Price restrictions:

Financial and poor communication, and distance barriers in visiting health facilities have been major reasons that tribal people do not get timely health services. These communities, irrespective of being relocated from the wildlife sanctuary, are facing financial barriers to availing health care services. It was evident that the healthcare workers played tricks to take bribes from the tribal women. Many women expressed their apprehension about paying money to the healthcare workers in the villages. This has brought distrust between healthcare workers and women.

g) Receiving modern healthcare benefits:

Disease severity, susceptibility to disease, and lack of access to forests for medicinal plants have helped many women cope with displacement and access modern healthcare. Many tribal women in these communities find it difficult to accept modern medicinal methods and techniques for childbirth as they prefer traditional methods. The scarcity of forest resources makes it difficult for them to access medicinal plants

6. Result and discussion:

The research findings indicated that 18 angiosperms belonging to 14 families have significant importance in ethno-medicinal practices associated with pregnancy, labor, and delivery. Among these, the Amaranthaceous family stands out as the predominant group, featuring the highest count of plant species possessing medicinal attributes. Essentially, these plants are utilized in

traditional medicine through the preparation of decoctions.

CONCLUSION

Traditional belief systems among tribal communities often fall short in promoting overall health, contrasting with traditional medicinal practices that often prove more beneficial and upon which they heavily rely. However, a significant gap persists in integrating scientific knowledge into ethno-medicine, a step that could assist tribal communities in embracing modern healthcare. The displacement resulting from development projects has led to the disappearance of natural habitats surrounding many villages, once vital sources of medicinal resources. Despite this loss, there are instances where it brings about positive health outcomes, such as improved access to hospitals and healthcare professionals. The healthcare beliefs and practices of tribal communities, rooted in their forest-dwelling experiences abundant with medicinal plants, differ markedly from the modern scientific worldview. These traditional beliefs and healing systems profoundly shape healthcare practices, influencing the health-seeking behaviors and preferences of indigenous peoples.

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