

Ethnomedical practices of rural and tribal populations of India with special reference to the mother and childcare

P Pushpangadan* & V George

Amity Institute for Herbal and Biotech Products Development, 3 Ravi Nagar, Peroorkada,
PO Thiruvananthapuram 695 005, Kerala

E-mail: palpuprakulam@yahoo.co.in; georgedrv@yahoo.co.in

Resurgence of public interest in the ethnomedical practices in both the developing and developed countries is increasing. As a result, the trade of herbal products in the national and international market is also growing. The rich biodiversity and associated knowledge system particularly in Asia are well known. Over 8,000 wild plant species with about 1,75,000 specific preparations are known to the tribal communities alone. Native food as a medicine particularly during the pregnancy and child rearing are noteworthy. The finer aspects of native food are now incorporated in the novel designs of food and nutrition. Homestead garden and the kitchen are connected with the food and ecosystem based sustainable living. The loss of local traditions and associated knowledge system (Ethnomedicine) is resulting in poor health of mother and child especially among the rural poor. Recognition of the native healers and the time tested ethnomedical practices are therefore important in mother and childcare even in modern times.

Keywords: Ethnomedicine, Holistic healing, Native foods, Malnutrition, Mother care, Childcare

IPC Int. Cl.⁸: A61K36/00, A61P

Genetic resources constitute an integral component of biological diversity. They provide the basis not only for the continuous evolution and maintenance of the life-supporting systems on earth, but also contribute to the sustainable, economic, scientific, technological, cultural and spiritual development of humankind. There is a growing body of information on the significant contributions that genetic resources and associated traditional knowledge made to global economy and global intellectual property regimes¹⁻⁵. There has been a resurgence of public interest in the use of ethnomedical practices in the developing countries of the world and also in the developed countries. This resurgence has led to the increased popularity and acceptance of herbal medicine or green medicine or alternate medicine by a sizeable population in the developed countries such as USA, Europe and Japan. Accordingly, the resurgence of public interest in ethnomedicine is increasing exponentially, so also the trade in herbal products in national as well as international markets.

Ancient Ayurvedic masters advised to collect carefully the knowledge and practices in healthcare coming from outsiders such as cowherds /shepherds/tribal medicine men, etc. who may give valuable on the new use of a wild plant or new

medicinal plants with novel medicinal applications, etc. These information the ancient *Acharayas* advised to be subjected to an in-depth study and evaluation and if they are found useful then it may be added to the existing Pharmacopoeia. This amply demonstrates the openness of these great *Acharyas*, who advised to improve or add or modify the healthcare system time and again. Such were the frame of mind of the ancient Indian intellectuals and masters of medical sciences. But unfortunately this scientific frame of mind of the Indian intellectuals suffered a great setback sometime in about 12-13 thousand years back. It was mainly due to invasions by many aggressive races from different parts of the world. Such invasions disturbed stability, peace and tranquility of the country. To escape from the onslaught of the invaders and preserve the valuable heritage, the intellectuals of the country began to withdraw themselves and become very secretive. With the passage of time such withdrawal and secrecy led to orthodoxy, obscurantism and superstition preventing not only its natural growth but also the erosion and corrosion of the inherited knowledge.

The Third World nations of Asia are rich in biodiversity and the indigenous knowledge particularly the traditional ethnomedical practices. Among the Asian countries, India and China are the two major stakeholders in the herbal product

*Corresponding author

development and trade particularly the ethnomedical practices and phytopharmaceuticals. There are over 45,000 species of vascular plants reported from India. Of these, the folk medicine system of India use about 5,000 plant species with about 25,000 formulations for treating a variety of ailments, whereas the tribal medicine involves the use of over 8,000 wild plants with about 1,75,000 specific preparations/applications. The classical indigenous systems of Indian medicine prescribe 10,000 designated formulations. On the other hand, the Traditional Chinese Medicine has 12,807 resources, including 11,146 medicinal plants, 1,581 medicinal animals and 80 medicinal minerals. China is the largest producer and supplier of herbal medicine products and technologies. Herbal medicine is an organized sector in China for which the Chinese Government extends enormous support and encouragement in the form of modernization of the Chinese traditional medicine system through integration of modern medicine and incorporation of modern S&T knowledge and tools including informatics.

Traditional medicine as well as ethnomedicine has contributed considerably to the Mother and Childcare. Experienced and senior ladies still continue to play a major role in child and mother care in the rural settings of India and many other developing countries of the world.

The Chinese method worth following

After the revolution, Chinese society has succeeded in making a more egalitarian society rooted in Chinese traditions which should be a lesson for India. In China, the care taken to ensure the health and well being of the common man is exemplary and tells on the higher quality of life in the general population there. The subsidized food available all over China takes care of the nutritional needs of people, with identity cards anyone can have food anywhere in the vending outlets. The ban on drinking tap water and provision of clean boiled water for drinking all over China pre-empts the possibility of water borne diseases and helps in maintaining the over all health of people. The Chinese give utmost importance to personal and civic hygiene for which an army of people are deputed with legal provisions for punitive action. The adaptation of the local healers in to the healthcare apparatus as *Bare Foot Doctors* and making their services in the nooks and corners of the country made healthcare within the reach of everyone. This was supplemented by modern medical facilities

wherever it is necessary. These are all lessons for India which continues to suffer from all the old maladies due to faults in policy. Looked at from the historical angle the developed countries of today too had similar problems in the past which they have circumvented with appropriate steps. But with China and India there are more similarities as both are big nations with huge populations and similar socio-cultural and environmental factors.

Native cultural tuning in India – *Shodasa Sanskaras*

A battery of dos and don'ts governed conduct, what regulated human life in various ethnic groups of India, acquired from the collective wisdom of the ancient times. The tribal communities, rural societies in various regions and different socio-cultural formations in India had their own idioms. What has suffered in recent times with the homogenization of culture, where the western model has become paramount. The socio-religious sanctions in this as spelt out in the time honoured *Shodasa Samskaras* of India gave the guidelines for conducting a healthy life. Starting from conceiving a child, *Garbhadhanam*, the right ambience and other precautions, mental states and herbal medications, on to the rituals of third month, *Pumsavanam*, and another in fourth, *Semantham*, with appropriate dietary supplements spell out the processes to be adopted for a healthy child. The *Brahmacharya*, for the young adult, *Grihasthasrama*, the householder's way, *Vanaprastam*, partial retreat from active life and *Sanyasa*, total giving up of worldly life as a preparation for leaving the mundane world, were so designed keeping the needs of the individual and the society. Many of the modern problems of society are due to individuals playing inappropriate roles in life not suited to their age and station. For optimum physical and mental health, also social and community health, this kind of self imposed discipline is conducive. With the fast pace of modern life these are difficult to enforce but the underlying ideas can be assimilated and promoted, so that there are less of conflicts. For people optimum mental and spiritual health is as much important as those with physical health. The cultural dos and don'ts had further stipulations governing smooth conduct of life like what to eat and when. Empowerment with this wisdom equipped adolescents with the necessary preparations to beget healthy progeny. It also helped continuity of family as an institution, which is a healthy tradition in India.

While religious dictates like *Shodasa Sanskaras* have many positive contents there are also impractical and unhealthy postulates as well. Where discretion is necessary, it spells out adolescence as the age for education and restraint. The education here is life education, not information banking, what modern education has come to be, which includes body functions both physical and spiritual like *chakras*, its cosmic connections as in astrology, herbal medications and other knowledge. Marriage age was much lower than today and despite conscious restraint a healthy and affirmative sexuality is primary in this. Indian society now has one of the worst inhibitions and denials in sexuality and male – female separation, perhaps as an influence of Semitic religions and interim distortions in Indian culture. These damage the natural instincts of women most, which needs to be corrected. The early phase of healthy sexuality being part of Indian culture can be seen at innumerable temples across the country, where sculptures speak for themselves. Psycho-sexual correlates of health have attracted attention in recent times and this has tremendous implications for mental and physical health in the country. Wrongly interpreted concepts of *Brahmacharya*, etc. are being promoted by the ignorant as religiosity and tradition and this causes unnecessary problems in society.

Forest tribals - Life as a melody

The symbiotic life of forest tribals in India, what survives in the cultural mosaic of the timeless ancient culture, present a highly developed idiom of healthy living. Also keeping the ecosystem around in pristine health. The colorful dress, unpolluted air, water and food, natural diversity of food, music and singing all together make their lives exceptionally rich. From a modern psycho-social frame of reference they are in a highly balanced physical and mental state, though the modern yardsticks may not admit the same. But the pristine beauty is shattered where the forest ecosystems have been damaged and the tribes are now face immense tragedies. Where the tribal life has supportive resources they present a model with their nature gods and goddesses, animals and plants all around. That the great *Rishis* of India chose to retreat to the forests point to the importance of forests in India. What got severely distorted in the era of westernization where forest life came to be the opposite of development. Even today wherever the forests are healthy the tribal communities living within live on biodiversity without endangering it.

Ethnomedical practices of tribals

The 550 tribal communities, belonging to 277 ethnic groups, present perhaps the richest heritage of India. They account for about 7% of the population in India. A survey of the use of plants that the tribal communities make came out with staggering data of diversity. According to a recent study conducted under All India Co-ordinated Project on Ethnobiology (AICRPE)- (1992-1998), over 10,000 wild plant species are reported to be used by tribals for meeting their primary healthcare, food and other material requirements⁶. They use over 3,900 species of plants for edible purposes, over 8,000 for medicinal uses, another 1,000 for fodder, fibre and assorted purposes⁷. Tribal healers are known to use their own systems of healthcare with plant and animal extracts, faith and mystical rituals. Some of the tribals have their own unique tradition of healers, whose knowledge is passed down generations and protected. However, in the recent past these are facing threats of a high degree as the inroads by modern medicine and their own opting out from traditional healing to modern erasing many of these traditions. With enormous economic possibilities in the coming era of herbal and organic living, the government of India is yet to take steps to protect and promote these valuable streams of ancient knowledge.

There are native healer traditions in India which are precious but uncared for. Large number of healers across India is a neglected lot and the tradition is dying out fast with out patronage. Orally passed on from generation to generation many healing streams are also fast disappearing. The new generations in these families are averse to follow the low status and low income vocation and shift to more attractive routine professions. Substantial amount of this knowledge is lost already and the rest is facing severe threats. It is necessary to address this problem on a war footing. The traditional practitioners like herbal healers, *marma* experts, bone setters, etc. have to be identified and honored. Appropriate legal instruments made and their services made available to those in need. It is common for modern specialists to refer patients to these practitioners in many critical conditions. Though most of them lack legal authority to heal, this continues even after independence. Taking a cue from the Chinese model these unsung heroes can be incorporated in to the healthcare machinery of the country and their services made available to the needy. Systems to evaluate, monitor

and streamline the traditional healing practices, weeding out those who are not qualified, giving primary training to them, shall be a cost-effective approach for India. The rural interiors, where the modern systems have not reached and are unlikely to reach in the near future shall be covered in this manner. Even for those able to access modern facilities but prefer to use traditional and herbal methods this shall be a boon. Since, modern medicine has far too many disadvantages, like side effects and accumulation of toxins in the system, a large section of people are presently switching to traditional ways. Where appropriate policy support from the government shall make things regulated. These are traditions where the monopoly concept of modern medicine is not there and the knowledge is shared with the community. The participatory idiom ensures that there are least chances of treatment systems going astray⁸.

Holistic healing in Indian traditions

Unlike the approach of modern western medicine, the Indian systems look at the human body and its condition as an integral part of the whole. The various theories of Ayurveda give convincing answers to how the seasonal and climatic variations affect the human body. Though these cannot all be comprehended with the tools of modern science the underlying idiom explains the phenomena and the schools of treatment survived for millenniums is ample evidence that they are scientific in their own ways. Allowing these to function in those areas where they are successful, without demanding scientific proof for everything, shall be a saner step in health policy. The Indian traditions are a mix of ritual arts, religious rites, astrology and faith healing apart from specific medication, where the patient and the condition are not taken as an isolated entity. Herbal potions and Yoga are symbiotic in healing⁸.

In the case of food shortages and nutrition deficiencies, the inadequate availability of food is not the only problem; it is also the lack of proper awareness. Thus, the presence of cheaper food alternatives in the vicinity are often unknown to people and they resort to costly alternatives. Those suffering from vitamin A deficiency and taking tablets for the purpose can access the same from a cheap fruit like papaya. The vitamin A component in papaya is even more than that is in more costly fruits like banana. 100 gm papaya, studies have shown, has as much vitamin A as 425 gm of banana. One guava has

in it vitamin A which is equivalent to 5 oranges which are costlier. Many of the neglected leaves, including wild ones, have precious nutrition roles which remain unknown to people. The sustained use of these can cure many diseases, at no or least cost. More important in these days of pesticide poisoning is the availability of unpolluted food items at home.

Protecting native food webs

Every culture has its own food webs developed through centuries. Not only in production of food crops and other items it spans a broad spectrum of native technologies and reciprocal arrangements sustaining a local economy. External interventions, even if with good intentions, damage these. Thus, the supply of cheap food grains like rice and wheat through the Public Distribution System (PDS) has in many places extinguished the local farming of food grains as these become uneconomical. The stoppage of rain fed sorghum cultivation in the tribal belts of central India has been attributed to the availability of cheaper rice and wheat. The network of PDS shops in Kerala in the last few decades, it is inferred, reduced the cultivation of paddy in the state. This created dependency on external agencies and the cash economy for local food supply which affected the nutrition levels in the population. Bartering seeds is common among rural farmers in India and this did not depend on the cash economy. This practice preserved food and seed diversity for generations.

The damages on the finer aspects of native foods and their uses, like umpteen healthy technologies in the rural areas, also lead to nutritional losses. There have been processes of drying and preserving seasonal foods for the whole year till the coming of canned foods. With these lost and no new alternative models large quantities of seasonal food surpluses get wasted. Thus, during the season of mangoes and jack fruits, there was a rural tradition of drying the fruit pulp in sun shade, applying layer after layer of that on herbal mats everyday. This when dry, was kept in air sealed containers with native herbal preservatives. This was an unadulterated source of supplementary nutrition to the young and old. There were also practices of keeping raw mangoes in salt, dried jack fruit seeds in containers, etc. Coming very cheap and highly nutritious these were part of the native idiom which lost out with out patronage. Reinventing these require attention to enable better nutrition levels and reduce intake of toxic commercial food items. Use of agro-chemicals and all round toxicity in food, soils

and the environment demand that these organic ways be restored wherever possible. The delicate inner connections of native food webs have to be incorporated in designing future food policies.

Malnutrition and balancing the diet

Lack of proper nutrition awareness, with no conscious choice of food items, is as damaging as lack of food. Since over dozens of specific items, say carbohydrates in those who eat too much of rice or wheat but not many side dishes, lead to imbalances in body chemistry. This makes the individual prone to various diseases. The traditional habits with plenty of food variety and seasonal variations had underlying native wisdom. But with that lost, it is necessary that people are guided as to what they should eat, when and in what quantity. Stuffing any food when hungry is an invitation to disease. Obesity and large number of diseases of the developed countries start from here. In India, also elsewhere, there were stipulated periods of fasting, often with religious sanctions, meant to cleanse the body. Controlled fasting, what naturopathy uses, helps in detoxifying the body, eating away the accumulated toxins in the body. Occasional fasting also helps equip the system to function better. Primary healthcare policy needs to incorporate such important areas for better health in the population.

Native Homestead herbal gardens

The Homestead gardens of Kerala and the interconnected food and ecosystem based traditions present a scientific model of sustainable living. Though least understood till recent times, the traditional houses of Kerala often have home gardens boasting of an immense variety of species. This includes food crops, plants with medicinal value and assorted others. Some of these have been estimated to house as many as 18 varieties of mango alone. So also bananas of which Kerala has a large variety protected and multiplied in the home gardens. Species with edible and medicinal values like ginger, turmeric, pepper and many other tubers and leafy vegetables are cultivated in the homesteads. Most of the houses had cattle and fowl which took care of the organic food wastes and gave back dung which was used as organic manure in the gardens.

Dangers with modern food

Agro-chemicals in food is a major cause of disease and disability in the modern era and this is increasing

alarmingly. Pesticide residues, polluted water and air, trace metals are all major threats to health and well being. With not enough controls to monitor these invisible enemy is able to have its kill in India. Metal traces from the vessels used for cooking reaches the human body through food. Pitting and scrubbing off from cooking vessels results in human ingestion of aluminium. In *Ayurveda*, there are preparations that are to be made in an iron vessel, to enrich the medicine with iron. In the modern era, when the use of aluminium is wide spread, as vessels, cookers, food containers, foils, drug preparations, and so on the daily intake of the metal is substantial. The toxic effects of this alien metal inside the body are relatively less known and some studies have pointed to a series of complications including Alzheimer's disease. There are other equally harmful metals that are in everyday use, like lead coated utensils, pipes for potted water, etc. While the traditional tribes still use earthen pots and other natural material for their food preparation, large population of low and middle class populations use aluminium. This being a cheap alternative and easily available several developing countries use it on a large scale. Using the less damaging stainless steel, earthenware, etc. for cooking, wherever possible, are among the solutions in India. The age old tradition of cultivating one's own essential food in home gardens is the most powerful weapon against this enemy.

Malnourishment in pregnant women

Malnourished mothers give birth to malnourished children and this vicious cycle continues. This worsens through generations if not corrected and in a growing fetus the early stage impairments remain for life. This is why the extra requirements of pregnancy and early childhood are considered critical. The possibilities of congenital anomalies, childhood diseases and general disabilities are possible in the malnourished mothers apart from higher incidence of infant mortality itself. In general, the physically and intellectually sub-optimal population that result, men and women, becomes incapable to compete and the whole country suffers on that account. Malnutrition, adequate food for various functional needs from the formation stage of fetal brain leads to long term handicaps for life. The child is born with low intelligence and this cannot be corrected later. With whole populations affected, this manifests nationally as chronic poverty from which it becomes

difficult to get out, with the best of efforts. To break this cycle, it is important to start at the level of enriching women.

Since, women are at the centre of the scheme of things making food available in their hands is paramount. That is, food of required quality and quantity together with appropriate awareness. This is the only way to achieve lasting food security and health in the country. Expanding the infrastructure and delivery systems of modern medicine are important but equally important is the need to revitalize the healthy native traditions. Nursing the local ecosystems back to optimal conditions, ensuring civic and personal hygiene, all these through participatory means shall resolve problems at source. Self dependency on healthcare, what traditional healthcare ensures, food, from the local biodiversity, and massive awareness campaigns shall be able to address the problem. Indian villages had a battery of healers who used local herbal and animal based medicines and a large part of this has become extinct without official patronage with only pockets with the native strength surviving. It is important to get this tradition back on wheels as neighboring China did to great success. The *Bare Foot Doctors* in that country was an adaptation of the rich Chinese folk healing tradition as state policy which brought dramatic changes in China as bare facts illustrate such as the number of Olympic medals that go to China in comparison to India. Two very similar countries, with similar problems and possibilities but with different levels of achievement.

Tragedy of India – Low birth weight babies

One third of children born in India are low birth weight (LBW), less than 2.5 kg, and this is cause for serious concern for India. In this, girl children are at a double disadvantage. Not only this contributes to high infant mortality rates, it also poses future problems to the country as these children tend to be more prone to diseases in adult life. Adult diseases like high rates of coronary heart disease, Type II diabetes, etc. have been traced back to fatal malnutrition and deficiencies at the critical periods of development. Intra Uterine Growth Retardation (IUGR) is a major problem in India, which leads to stunted growth later. Pregnant and lactating mothers need dietary supplements as they have to feed two. But what actually happens in Indian society is discrimination towards women, less food than men and more work. Large areas in India are subject to food shortages, where the women are

affected more due to socio-cultural reasons. What results is a new generation of weaklings, men and women given birth by the weak women. Neighboring countries like China, where food is made available to people at very low prices and primary health taken care of by traditional healers the general health level of the population has gone up manifold.

Kitchen was grandma's medical store

Traditional kitchens in India, double as medical supplies, especially in rural areas. Turmeric, pepper, ginger, mustard seed, cardamom and assorted material in the kitchen have important functions and the elders at home always knew these uses, what was learned informally. A table spoon of turmeric powder with a glass of milk in the morning is routinely taken in many households to keep away all kinds of harmful organisms to whom turmeric and its active ingredients like turmerol and curcumin acted as bactericides and fungicides. Raw ginger extract is a common potion for all kinds of stomach complaints and indigestion. Raw palm sugar, pepper and few leaves of the *Tulsi* plant, which shall be available at most households, boiled is another frequently used preparation. This folk wisdom and the natural ingredients are fast getting eroded and people go for modern alternatives, often harmful chemicals.

Readying for child birth

From the time pregnancy is confirmed the crucial phase of pregnancy care begins in traditional societies. The expecting mother is advised to conform to a series of customary behaviors, every elder family member and villager starts monitoring the budding mother. The treasures of native wisdom about the matter open up before the new mother-to-be. What work to do and how, when, what not to do, are part of folk wisdom. Thus, it is mandatory for those with advanced pregnancy to sweep the floor, where modern daughter-in-laws fight with mothers-in-law. Such natural exercises help in easy delivery as believed, what the obstetricians now endorse. It is a tradition that is kept alive passing from one generation to the next in informal ways. Many of the preparations in this knowledge remain unwritten anywhere. Certain foods are taboo for pregnant women, where some others are mandatory.

Pregnant women are normally not allowed to stray outside the home during the night in most villages. They have also restrictions in visiting sick people and such other cases which is normally condoned if a

woman is pregnant. There are also stipulations in several families that the women hear music, do prayers, read the epics like *Ramayana*, etc. This point to a sharp sense of awareness about the latest findings of psycho-somatic linkages, that is, minds body connections. Turbulence in mother's mind, fear or extreme anxiety, it is now known, affects the future child.

A traditional Indian science like *Yoga* has postures meant for various stages of pregnancy which makes delivery an easy and natural process. But these are only to be practiced with the expert guidance of a well trained *Acharya*. There are *asanas* and exercises meant for post-natal stages as well which ensure that the women regain her body conditions as before. There are herbal preparations together with this like medicated oils and herbal nutrients. Particularly with regard to the restoration of reproductive organs where modern systems lack appropriate approaches leading to many complications in future. Post-natal care of the mother is an area where traditional knowledge has much to offer. This varies from place to place but with some uniformity.

Native natal care

Providing professional natal care in well equipped modern hospitals is known to have a discernible effect on maternal and child safety and comparative data between communities who use this and others confirm this. The next best is to have the traditional *dais* or birth attenders and a large population in India, due to the huge size of the country, cannot have the luxury of modern hospitals as yet. While the effort has to be to have adequate facilities across the country, the immediate need is to make the services of the traditional birth attendants as healthy as possible. However, the unscientific integration of the two streams, modern allopathic and ancient systems, is not advisable as these go by two totally different paradigms. The birth attendants in Indian villages use materials like cow dung as disinfectant in the house and this has no scientific validity in the theories of modern science. Where this shall be judged as potentially damaging, the traditional science not yet deciphered. When practitioners of modern medicine train traditional healers they get confused and end up doing more damages than good. Some NGOs and some Government programs aim at this synthesis and the desirability of this needs closer scrutiny. While physiological and other details can be told to the traditional birth attendants the practices are best left

untouched. This is important especially where the modern medical facilities are not available.

Concept of native vaccination

The new born infant, entering a new world gets initiation to breathing, first taste of food as mothers breast milk and hears and sees the world for the first time. There are intricate procedures in traditional Indian childcare and a separate branch of *Ayurveda* deals with this, just as there is pediatrics in modern medicine. In the south, there is a practice of giving *Ora marunnu* to the new born child, giving the mild paste of various herbal ingredients like rhizomes of *Acorus calamus* and dry seeds of *Myristica fragrans* (nutmeg) and dry ginger (*Zingiber officinalis*) etc. in some places given mixed with mother's milk. Interestingly, all these are part of the knowledge of the elderly women in the house and no physician is required. *Ora Marunnu* can be looked at as a kind of vaccination in modern medicine and took preventive care of various childhood diseases, at the same time it is understood now, enabling better brain functioning. That in South India the modern medical facilities are able to co-exist with such native practices even today is an instance of the complementarities of the two streams.

The various home made medications, mostly herbal and occasionally animal based as meat soups, for the mother and child was kind of prescribed by the *Dais*. The knowledge was in house, all resources available in the neighborhood, or at the local *Angadikada*, the shop for the traditional herbals ubiquitous in places like Kerala. These shops do yeomen service though not yet receiving the deserving recognition where legal and policy decisions are necessary.

There is a need to promote the household knowledge base by conscious planning and proper prioritizing methods. To make the knowledge more broad based and universal in the context of alien patent regimes of commerce eating in to the native strengths of India and making these priced this has great significance. Patent regimes in the era of globalization try to regiment and monopolize common knowledge of a biodiversity rich country using trade agreements and treaties catering primarily to the interests of resource poor developed countries.

Unsung Heroes

There are traditional medications and exercises, as in *Yogasanas*, in native medicare practices of India that ensure perfect post-natal care of the mother.

Restoring the mother to her original physiology is a challenge that the native healers often take up. There are internal medications, external applications of medicated oils, and other practices that are followed and these are living traditions and most mothers in South India complete this course. For a mother to get back her body agility is a boon and this kind of post-natal care also prevents a variety of gynecological complaints. The rising numbers of gynecological complaints in the modern times, according to some native healers, is mainly due to the neglect of mother's health after child birth, among others. There are limited therapies in modern medicine to restore mother's health. Here again the mutually exclusive domains of the native and modern streams can be effectively utilized.

Gaps in National Policy

Adequately meeting the nutritional requirements of children, both male and female, remains an area where the country is found lacking, more so in comparisons with neighboring countries like China. China has institutionalized country wide systems that make sure that every citizen is well fed, especially the youth. They can access food at the numerous outlets in the country at subsidized rates using their identity cards. This shows up in the physical and intellectual health of the majority population there, India compares very badly in this. Stage wise nutritional requirements of children are known and by scientifically planning the resources and delivery systems this can be achieved in India also. However the best choice for India shall be the decentralized village models, where the homestead gardens were stocked with edible items, from grains to fruits and vegetables, poultry and cattle. The diversity of India's homesteads is the envy of the world.

Conclusion

Thus taking care of the mother and child as the central focus healthcare of the total country can be tackled. Revitalizing the traditional healing systems based on native knowledge and resources this is a bottom up approach and shall be enduring. This will help sustain the healthy but fast disappearing native model of traditional healthcare, together with the biodiversity. With the state administered healthcare systems based on modern medicine unable to tackle the mammoth challenges in the country and the acute shortage of resources to effectively target this, the

choice before the nation is to practically address the issues on hand. Repositioning the traditions and their delivery systems shall go a long way in this. For knowledge alone is not sufficient, there has to be mechanisms to take these to the people in a modern society. With policy plans and action modules this can be achieved with minimum expenses, for the raw materials are readily available, only it has to be processed and fine tuned where things shall fall in place. But for a huge country like India with its mosaic of cultures and diversities it is no easy task either. Giving uniform guidelines can work only if they are given space to incorporate the local variations, the herbal medicines used in the Himalayas shall not be the ones used in the coastal regions of India. The large number of traditional healers present in the peninsular tip, tribal areas or the Northeast may not be there in the upper Indian regions. The marked ecosystem and biodiversity variations have to be inbuilt in the policy if it has to achieve the desired results. If the present model is effectively implemented, then the results shall be multifold, better health of the population, conservation of the rich biodiversity of India and value additions to the presently neglected herbal resources are among these. Recognition to the native healers and their time tested practices shall add to this. In short, together with the infrastructure in modern medicine a totally new healthcare paradigm shall be available with innate capabilities to complement various sectors of medicine.

Acknowledgement

Authors are thankful to the New Delhi office of UNESCO for their kind guidance and support in this important venture. Special mention has to be made of Ms Minja Yang, Director, and Dr Ram Boojh, Programme specialist, UNESCO, New Delhi. Authors are also extremely thankful to Dr Ashok K Chauhan, President of the Ritnand Balved Education Foundation (RBEF) for the unstinted support, guidance and patronage.

References

- 1 Kerry ten Kate, Biopiracy or Green petroleum? Expectations & Best practice in Bioprospecting, (Overseas Development Administration), 1995, 61.
- 2 Kerry ten Kate & Laird SA, The commercial use of biodiversity – Access to genetic resources and benefit sharing, (Earthscan Publications Ltd, London), 1999.

- 3 Dutfield G, Intellectual Property Rights, Trade and Biodiversity – Seeds and Plant varieties, (IUCN and Earthscan Publications Ltd, London), 2000.
- 4 Laird SA, Biodiversity and Traditional Knowledge – Equitable Partnership in Practice, (Earthscan Publications Ltd, London), 2002.
- 5 Laird SA & ten Kate K, Biodiversity prospecting: the commercial use of genetic resources and best practice in benefit-sharing In: Biodiversity and Traditional Knowledge–Equitable Partnerships in Practice, edited by Laird SA (Earthscan Publications Ltd, London), 2002, 241-286.
- 6 AICRPE (All India Coordinated Research Project on Ethnobiology) Technical Report. (Ministry of Environment and Forests, Govt. of India), 1992-1998.
- 7 Pushpangadan P, Biodiversity and Emerging Benefit Sharing Arrangements – Challenges and Opportunities for India, Proc Indian Natl Acad (PINS) B 68, 2003 297-314.
- 8 Pushpangadan P & Pradeep PRJ, Heal Women Heal India–Empowering Women with Traditional Wisdom, a book supported by UNESCO, New Delhi, WHO, New Delhi, (Amity Institute for Herbal and Biotech Products Development, Thiruvananthapuram), 2007,1-38.