

## **Traditional healers of Ribdi-Bhareng in Western Sikkim: perspectives on their methods, belief and sustenance in community health care**

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### **Abstract**

Healers of Ribdi-Bhareng in western Sikkim using 151 plant species, 37 items of birds/animal origin and 18 non-biological items were studied. A total of 46 different health complications along with 2 cures for animal and 1 for poultry bird are recorded. 38 % of the healers had working experience of over 30 years, however, long years of experience was not correlated to number of diseases handled, herbal constituents utilized or of successful cases. Faith and belief over the healing system were found to be accountable for successful results but all cases of success could not be accounted under this. Handling of herbal items, its procurement, processing, prescriptions, etc., are discussed along with limitations as well as growth prospects to the practice of healing. Blending of native herbalism and healing process along religious and cross-cultural lines was found responsible in giving rise to a newer dimension of healing in the study site. Multi-drug formulation (plant-animal-mineral-based) is recorded for the first time from Sikkim Himalaya.

**Key words:** Faith, Healers, Herbalism, Multi-drug Formulation, Sikkim Himalaya

### **INTRODUCTION**

Traditional healing is defined by the WHO as “the health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral-based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being” (WHO 2008). In the Sikkim Himalaya this form healing is in practice since time-immemorial and this document highlights some native aspects of it especially in regard to the handling of herbal materials, processing and the faith and belief components inherent in the system. The legacy of traditional healing system has a fairly strong root in the Ribdi-Bhareng area and is found to be exhibiting a marked sign of evolution through cross-cultural blending of ideas in healing as well as use of newer herbal constituents. The study points to several facets in the activity of herbalism in the Ribdi-Bhareng area in Sikkim with highlights on the materials involved in healing, beliefs enshrined within the system and the prospects and limitations of the healing regime operating in one remote situation.

#### **Study area**

Ribdi-Bhareng (27°06' N, 88°11' E) is made up of many small villages spread in an area of about 750 ha falling between 1200-1800 m amsl. The land mostly follows southern aspect

and steep inclined slopes comprise the general topography. Various tribes in the form of Bhutia, Lepcha, Nepalese and Sherpa origin inhabit the area, the majority being that of the Sherpa tribe. The villages and the land beyond are covered by pristine natural forests, a large part of it representing the oak-chestnut evergreen forest type. Ribdi-Bhareng holds a population of 851 persons (Ribdi, Male : Female 291 : 279; Bhareng, Male : Female 157 : 124) and is about 130 km away from Gangtok, the state capital. People in Ribdi-Bhareng villages go in for subsistence type of agriculture where potato, temperate fruits, vegetables and cardamom are the main crops.

### METHODOLOGY

Field interviews with the healers were carried out with a set of open-ended queries. Herbs, organisms and physical additives were identified through standard manuals, viz., for flora (Hooker 1875; Polunin & Stainton 1984, 1987; eFlora 1994; Stainton 1997) and for birds and animals (Ali 1962; Jerdan 1984; Deuti & Goswami 1995; Avasthe & Jha 1999). Views of experts on the subject were also consulted in cross-checking the materials used by the healers. PRA was conducted in regard to herbal usage pattern, inherent beliefs in practice, scope and limitations in herbalism, procurement and supply of raw materials, etc., following standard PRA method (FAO 2006).

### RESULT AND DISCUSSION

Profile of the herbal practitioners shows an average age of 55.4 years with the youngest at 30 years and the oldest person at 89 years (Table 1). Over 50 % of the healers had a lineage of upto three generations in the healing activity. Out of the 21 practitioners identified from the region, 5 each were found to be carrying out the practice at the 1st and 2nd generation levels and 11 were found working up the legacy at the 3rd generation stage (Table 2.3). Among the different communities that are involved in the art of healing the Sherpa people was in majority. Some 12 native healers who were considered veterans and the most experienced are already dead, however, the art of healing still continues in the area in the form of new healers (Table 2.1). The healer-to-population ratio at the study site is 1 : 154 which shows a better per capita health attention compared doctor-to-population ratio of rural India (1 : 3300, Anonymous 2010) or the doctor-to-population ratio in Sikkim (1 : 2950, Chattopadhyay & Lahiri 2001). A general profile of the healers in Ribdi-Bhareng is presented in Table 1.

Some of the herbalists are new to the practice (<10 years) and the longest practicing years observed was 69 years. The average practicing years for the healers of the region comes to 24 years. Correlation analyses have shown no relation between practicing generations, age of practitioners, numbers of diseases attended, number of constituents used or number of years in practice. It may be due to the small sample size taken or that all these factors are independent of each other.

The maximum numbers of healer falls in the age group of 51 – 60 years (Table 2.1) with decline towards both ends. Though the number at the older end has become constant an increasing trend is witnessed at the younger group end. Highest number of healers (10 persons) practicing in the area has working experience which spans between 10 – 20 years (Table 2.2). This figure steadily decreases to reach only 1 healer having working experience of 61 – 70 years. The highest number of healers (11 persons) appears as 3rd generation practitioners (Table 2.3).

In the practice of herbal system most of the healers makes no income out of their service as healers. The service provided by them is purely based on community service and

**Table 1.** Healer profile in the Ribdi-Bhareng area, western Sikkim

Name (age)	Practicing generation	Years in practice	Diseases attended	Materials used in curing diseases			Total Items
				Herb	Animal /bird	Non-biological	
Bishwakarma Bhakta B (74)	3 <sup>rd</sup>	57	19	20	4	3	27
Chhetri Jang Bahadur (56)	1 <sup>st</sup>	28	30	58	5	4	67
Gurung Kaluman (82)	3 <sup>rd</sup>	45	16	28	4	0	32
Lepcha Dai Tshering (52)	3 <sup>rd</sup>	17	1	1	1	0	2
Lepcha Sonam (53)	3 <sup>rd</sup>	32	33	11	1	0	12
Magar Rana Sribahadur (56)	2 <sup>nd</sup>	12	10	45	12	3	60
Rai Som Bahadur (30)	3 <sup>rd</sup>	10	22	49	10	6	65
Sharma Bishnu Nath (46)	3 <sup>rd</sup>	26	26	50	4	5	59
Sharma Bishnu Prasad (51)	3 <sup>rd</sup>	15	11	16	1	0	17
Sharma Gopal Prasad (45)	2 <sup>nd</sup>	23	1	1	0	0	1
Sharma Hom Nath (72)	2 <sup>nd</sup>	50	20	34	0	3	37
Sharma Paramanand (33)	2 <sup>nd</sup>	12	33	48	4	5	57
Sherpa Dawa Kundi (89)	2 <sup>nd</sup>	69	20	23	4	3	30
Sherpa Kami (75)	2 <sup>nd</sup>	40	28	42	8	2	52
Sherpa Mingma Temba (39)	3 <sup>rd</sup>	14	11	13	3	2	18
Sherpa Mingma Tshering (58)	1 <sup>st</sup>	30	5	11	1	0	12
Sherpa Mingur (30)	1 <sup>st</sup>	11	13	7	6	4	17
Sherpa Nim Norbu (81)	3 <sup>rd</sup>	31	6	3	3	0	6
Sherpa Phur Temba (60)	2 <sup>nd</sup>	16	1	3	0	0	3
Sherpa Temba (37)	1 <sup>st</sup>	10	33	16	7	5	28
Subba Prakash (45)	1 <sup>st</sup>	10	20	22	4	2	28

**Table 2.** Structure of the healer community (age, years in practice, generations)**Table 2.1.** Age in years

Age of healers (years)	30-40	41-50	51-60	61-70	71-80	81-90
No. of healers	5	3	6	1	3	3

**Table 2.2.** Duration of practice

Years in practice	10-20	21-30	31-40	41-50	51-60	61-70
No. of healers	10	4	2	2	2	1

**Table 2.3.** Practicing generations

Generation in practice	1st	2nd	3rd
No. of healers	5	5	11

humanitarian grounds. However, there obviously lies the possibility of making income by the practitioners (1 person, Som Bahadur Rai, *ca.* US\$ 500 per annum). All the work that a herbalist performs in his practice is mostly done by himself with as little help as possible coming in from family members. Fellow herbalists are often consulted.

The general methods used in the abatement of diseases and ailments in the study site are found to be, 1. Phytotherapy, 2. Zootherapy, 3. A mixture of both, or 4. Use of non-biological materials. In phytotherapy the usage can be classified as 1. Single-herb usage, and 2. Multiple-herb formulation.

### **Herb procurement and processing**

A majority of healers were unanimous on the extra effort put forth in time taken in searching for herbs and animals/birds, etc., which brings in additional work load besides the routine farming job. At times it takes more than 10 days to search and find a particular ingredient which goes to make up a herbal recipe. A little cost is incurred sometimes which comes between US\$ 10 – 20 for some but most admit to no cost involved.

A total of over 206 types of biological and non-biological items have been recorded in the traditional system of therapy in the study area. These are procured locally and some are brought from the nearest market. Procuring animals/birds for a particular herbal formula is always difficult and once obtained these are immediately dried and stored in appropriate way. A more difficult aspect in procurement of healing item is obtaining it at the right time, e.g., obtaining the belly of spiny anteater (*Hystrix brachyura* Linnaeus) which is to be killed during the month of *Cha-t* (mid-February to mid-March). The rationale to it the healers cannot provide, nevertheless, the belief is being followed from a long time. Procurement of healing items from animal parts is increasingly getting difficult due to enactment of several environment conservation Acts and Policies as well as the CITES regulation.

Plant parts that are used for herbal requirements, in order of precedence, are namely, 1. the leaves, 2. the flowers, 3. fruits, 4. root, and 5. entire plants. During the process of herbal preparation care is taken not to use metal appliances and the herbs are plucked or lifted using bare hands. Naturally dried plants are favored than bringing it in green condition and drying thereafter. Entire plant body is rarely taken unless when required for the recipe.

Herbal materials are generally processed by several methods, viz., 1. Pounding, grinding and powdering, 2. Rubbing/grating on a stone to prepare a paste/emulsion, 3. Crushing with hands and extract taken, 4. Boiled and decoction made, 5. Steeped overnight to obtain infusion, and 6. roasted directly or under suitable cover. The plant products are cleaned and washed before processing and liquid preparations are filtered through fine linen. Simple castings used during bone dislocation or fracture, etc., involve linen bandage with bamboo struts as brace.

### **Disease profile and healing**

Most common ailments attended by the healers are - 1. Asthma, 2. Blood dysentery, 3. Broken bones, 4. Burn cases, 5. Cough, 6. Epilepsy, 7. Fever, 8. Flu, 9. Gastric complaints, 10. Headache/migraine, 11. Hepatitis, 12. Menstrual problems, 13. Pain in the limbs/joints, 14. Sensations in the body, 15. Sinus condition, 16. Skin complications, 17. Sprains, 18. Swellings, 19. Ulcers, and 20. Urinary tract infection. Congenital diseases are reported few and the majority fall under seasonal afflictions.

Difficult and non-curable ailments/diseases were identified as, 1. Acquired Immuno-Deficiency Syndrome, 2. Asthma, 3. Brain diseases, 4. Cancer, 5. Child birth, 6. Chronic urinary tract infections, 7. Diabetes, 8. Excessive and sudden bleeding from nose/mouth, 9. Heart complications, 10. Hepatitis, 11. Tuberculosis, 12. Tumors, and 13. Paralysis. As most of these diseases can be diagnosed only through elaborate medical tests and advanced instruments the healers find it difficult to identify the disease in the first place. Under these conditions the healers advise for getting regular medical aid.

People from 30 villages come to Ribdi-Bhareng for cure and these fall within a radius of ca. 40 km. The healers are sometimes visited by patients coming from the many adjoining villages of West Bengal which are situated at distances of over 130 km. The common characters of these villages are the state of poverty, low literacy rate and being situated far from modern health care system.

About 90 visitors are attended by a healer on a particular year. The minimum a healer has answered to call from patients stands at 5 per year and the maximum at about 150 in a year. A majority of patients appear during the monsoons. The common diseases and health complications which are attended by the healers at Ribdi-Bhareng are presented in Table 3.

**Table 3.** Healers associated with disease/ailments in Ribdi-Bhareng, western Sikkim

Disease/medical conditions	* Healers having a cure/formula	Healer total
Asthma	1,2,7,9,16,19,20,21	8
Boils	1,5,6,7,8,9,10,11,13,16, 17,18,19,20,21	15
Bones broken or fractured	2,5,6,7,8,9,13,14,18,19,21	11
Burns	1,2,3,5,7,8,9,10,11,13,16, 17,18,19,20	15
Chronic sore/weals	6	1
Colds/influenza	5,7,9,11,12,13,16, 17,18,19,21	11
Conjunctivitis	7,13,16,19,21	5
Constipation	1,2,5,6,7,16,19,21	8
Cough	1,2,7,8,11,16, 17,18,19,21	10
Cuts/bruise	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21	21
Debility, General	7,11,13,16, 17, 18,21,22	9
Diarrhea	1,2,5,7,8,9,10,11,12,16,17,18,19,21,22	15
Dysentery	1,2,3,5,6,7,8,9,10,14,16, 17,18,19,21	15
Ear infections	6	1
Eczema	2	1
Epileptic conditions	4,21	2
Fever/high fever	1,2,3,5,7,8,9,11,12,16, 17,18,19,20,21	15
†Gal n phāt yk	1,2,5,6,7,9,16, 17,18,19,21,22	12
Gangrene	2	1
Gastric disorders	2,3,7,9,16,19,21,	7
Gout	2	1
Hair loss	2,7,6,16,21	5
Headache	5,7,9,11,16,19,21	7
Indigestion	2,3,5,6,7,9,16, 17,18,19	10
Insect bites	1,2,3,5,6,7,8,9,13,16, 17,18,19,21	14
Jaundice	1,2,3,6,7,9,12, 17,18,19,20,21	12
Leucorrhea	16	1
Lice/flea infestations	7,9,16,19	4
Madness, Cases of	21	1
Malaria	21	1
Menstrual problem	19	1
Mumps	1,2,3,5,6,7,9,10,16, 17,18,19,20,21	14
Oral lacerations	1,2,3,6,7,9,16, 17,18,21,19	11
Piles	1,2,5,7,8,9,16,19,21	9
Child birth	1,5,7,9,13,16,19,20,21	9
Sinus condition	1,2,5,6,7,8,9,10,11,12,16, 17,18,19,20,21	16
Skin conditions	1,5,7,8,9,16, 17,18,19,21	10
Skin eruptions	3,7,8,9,13,18,19,21	8
Sprains/muscle pull	6,7,14,16	4
Stone in gall bladder/kidney	2,5,6,7,13,16	6

Disease/medical conditions	* Healers having a cure/formula	Healer total
Swellings	1,5,6,7,9,11,13,16,21	9
Throat infection	1,2,3,5,7,8,9,10,11,12,14,16, 17,18,19,20,21	17
Toothache	2,6,7,8,9,16, 17,18,19,20,21,22	12
Tuberculosis	2,5,6,13,14,16,19,21	8
UTI	2,7,9,16, 17,18,19,21	8
Worms	2	1
Cattle health	8,9,19,21	4
Poultry health	21	1

\*Healer Code: 1= Bhakta Bahadur Bishwakarma, 2= Bishnu Nath Sharma, 3= Bishnu Prasad Sharma, 4= Dai Tshering Lepcha, 5= Dawakundi Sherpa, 6= HomNath Sharma, 7= Jang Bahadur Chhetri, 8= Kaluman Gurung, 9= Kami Sherpa, 10= Lhakpa Sherpa, 11= Mingma Temba Sherpa, 12= Mingma Tshering Sherpa, 13= Mingur Sherpa, 14= Nim Norbu Sherpa, 15= Paramanand Sharma, 16= Phur Temba Sherpa, 17= Prakash Subba, 18= Som Bahadur Rai, 19= Sonam Lepcha, 20= Sribahadur Rana Magar, 21= Temba Sherpa

†Loss of skin and muscle tissues between digits of unshod feet due to abrasive materials, e.g., soil, sand, etc.

### Cross-cultural evolution of healing in the study area

Sherpa people are known to be the inhabitants of cool subalpine mountains. However, on descending to lower heights of temperate Ribdi-Bhareng they come in contact with a different situation where a different culture exists and blending of herbal knowledge has a greater potentiality. Additionally, the Sherpa along with other tribals in the study area are more inclined towards zotherapy which suit them because of their non-vegetarian food habit. However, at present the Sherpa healers were observed to be including more herbal constituents in their therapy. In a similar development the Hindu healers have taken recourse to using animal products in their prescriptions. The Hindu healers in the study area are strict vegetarian but at present they are experimenting with animal products. These deviations from the established norms indicate that healer communities are continuously working towards developing a better cure rather than being stalled by religious restrictions.

It was noted that most of the Sherpa healers have knowledge on treating broken bones and fractures. This may be attributed to their natural habitat in the high mountains where large rock outcrops and boulders are common features and chances of accidents inviting injury to bone and fractures predominate. The people coming from the lower altitudes were noted for having more knowledge on general health problems rather than preponderance of knowledge on bone-related casualties.

It was also observed in the case of Sherpa tribe that (i) cases of conjunctivitis are never reported, and (ii) the use of *Pähä* (frogs of the genera *Amolops* Cope or *Xenophrys* Günther) in therapy is not known. This may be because the Sherpa tribes originally inhabited such a place that conjunctivitis did not occur or the *Pähä* was absent. But arriving at Ribdi-Bhareng the Sherpa have developed cure for conjunctivitis and the *Pähä* has also found its way into their healing regimen. Similarly, cases of diseases that afflict poultry birds, cattle, etc., are not recorded in the Sherpa way of healing. However, in the present case they were found acquainted with the art of healing these diseases. Sherpa healers tending to cattle disease in Ribdi-Bhareng is also a sign of crossing the rubicon as in their original habitat in the high mountains cattle do not exist.

The Sherpa descending from subalpine region to Ribdi-Bhareng are now using materials in their recipe which are normally found at lower heights, for example, *Aegle*

*marmelos* (Linnaeus) Corrêa, *Boerhavia diffusa* Linnaeus, *Calotropis procera* (Aiton) Dryander, *Glycyrrhiza glabra* Linnaeus, *Haldina cordifolia* (Roxburgh) Ridsdale, *Holarrhena pubescens* Wallich, *Justicia adhatoda* Linnaeus, etc. These plants do not grow in the region from where they have come. Similarly, the non-tribal healers coming from the subtropical region have turned towards those herbal resources which come from the higher subalpine regions, e.g., *Berberis vulgaris* subsp. *australis* (Boissier) Heywood, *Panax pseudoginseng* Wallich, *R. nobile* Hooker f. & Thomson, *Rheum australe* D. Don, *Roscoea purpurea* Smith, *Saussurea tridactyla* Schultz-Bipontinus ex Hooker f., *Sinopodophyllum hexandrum* (Royle) T.S. Ying, etc. Living together for a prolonged period has ushered in a natural fusion of healing processes which indicates traditional knowledge in the study area as a dynamic field.

### **Faith and belief in the healing activity**

The healers in Ribdi-Bhareng were found to be firm believers in God or followed Nature worship and the patients who visit them are also divided as per the above two belief. The healers are more inclined to cure the patients rather than earn money from their profession. This act of the healers not working for monetary gains adds fuel to the faith over the healers. People also show infallible faith upon the healers because that was what their forefathers did in their respective generations in the past. It was found that the age of the healers, their experiences, economic level or lifestyle/disposition did not have any relation in winning faith from the people. Sometimes a healer becomes unsuccessful in his treatment; in spite of this the faith of the people does not waver or respect decline.

The power of herbs, animal/bird parts, etc., in curing diseases is recognized from the past many generations in the area and due to this the belief on its efficacy is obviously strong. The only thing that backfires in a healing procedure is the general health condition of the patients, their disposition and state of the patient when s/he was brought in. Individuals in unconscious or drunken state pose a problem and frail health is also an impediment while providing treatment. It was found that the three factors which legitimize the role of the healer as proposed by Laguerre (1987) – their own beliefs, the success of their actions and the beliefs of the community – have a strong incidental match over the present healing practices at Ribdi-Bhareng.

The traditional healers hold the view that the final results may depend on more than one factor and the efficacy also varies from one person to another. Nevertheless, often success is not attained despite the faith factor is engrained in the entire healing process. If no perceptible progress is made then the case is finally taken to the medical practitioners in the nearest town. The healers themselves persuade the people to see the doctors after they find the traditional system not working for the patient.

### **Drug structure and composition**

The herbal preparations were found to be of two types, viz., 1. a single item prescription, and 2. composition made up of multiple constituents. Use of the latter was taken up by a majority of healers in study area. How the healers came to know that combining several constituents imparted greater effect over the disease could not get convincing response. It is not clear for the present but some amount of trial-and-error must have come into interplay in arriving at such compositions.

Highest number of constituents appearing in a prescription was recorded in the case of broken bones (10 constituents), followed by light fractures (9), and toothache and sprains/muscle pull (7 each). Usage of non-herbals (animal/bird parts) was observed most in the

case of treatment of hemorrhoids. Four different bird species and four mammals were put into use by the healers to prepare the different recipes for hemorrhoid. Dosage were found to be arbitrary, i.e., each healer dispenses his own particular dosage and there appears very little relation of dosage to body weight of the patient.

It was observed that most of the time the healers were found using the same ingredient for a certain disease (Table 5) and in some instances it varied from one healer to another showing unanimity in the composition of a cure (Table 4). A case where healers were found using different set of composition for treating the same complain (e.g., diarrhea) is presented in Table 4.

**Table 4.** Use of different constituents for the same complaint (e.g. diarrhea)

Healer Code	Constituents (serial numbers indicate alternative cures)	Preparation method	Dosage
1	Horn of sheep ( <i>Ovis aries</i> Linnaeus) + Curd	Outer part is roasted and scraped, scrapings taken with curd prepared one day before	200 ml of curd with the scrapings, 1-2 times a day
7	<i>Psidium guajava</i> Linnaeus (bark) + <i>Rubus ellipticus</i> Smith (root) + <i>Docynia indica</i> (Wallich) Decaisne (fruit)	Equal measures of each grounded, extract taken from <i>D. indica</i> (Wallich) Decaisne	100 g thrice daily taken with <i>D. indica</i> (Wall.) Decne. extract
8	<i>D. indica</i> (Wallich) Decaisne (fruit) + ant wax (found in the plains, besides rivulets)	All ingredients boiled in water, filtered and extract taken	2 tsp twice daily
20	<i>Bauhinia vahli</i> Wight & Arnott (roots) + <i>Garcinia cowa</i> Roxburgh ex Choisy (bark) + <i>Dryothyrium boryanum</i> (Willdenow) Ching (frond) + <i>Stephania glabra</i> (Roxburgh) Miers (fruit)	Ground and boiled, filtered	Juvenile: 1 tsp Adult: 250 ml Both to be taken twice daily
18	1. <i>Caladium</i> sp. Ventenat (corm) 2. <i>Fragaria vesca</i> Linnaeus (overground parts)	1. Ground and taken with water 2. Ground and taken with water	1. 1 Tsp daily 2. 250 ml once daily
2	<i>D. boryanum</i> (Willdenow) Ching (frond) + <i>P. guajava</i> Linnaeus (bark) + <i>Garcinia cowa</i> Roxburgh ex Choisy (bark)	Mixed and ground, taken with water or made into decoction and taken	250 ml, once
3	1. <i>P. guajava</i> Linnaeus (bark) 2. <i>D. boryanum</i> (Willdenow) Ching (root)	1. Bark ground, taken with curd 2. Ground, filtered, extract taken	1. 200 ml once 2. 2 tsp, twice daily
6	<i>D. boryanum</i> (Willdenow) Ching (frond) + <i>R. ellipticus</i> Smith (root) + <i>Woodfordia fruticosa</i> (Linnaeus) Kurz (flowers)	Mixed, crushed and strained, extract is taken	Taken once
15	<i>D. indica</i> (Wallich) Decaisne extract + curd from buffalo ( <i>Bubalus bubalis</i> Linnaeus) milk	<i>D. indica</i> (Wallich) Decaisne extract orally taken or with curd of buffalo milk curd	Taken once
9	<i>Stephania glabra</i> (Roxburgh) Miers (root)	Grated over a stone and taken with water	Thrice daily
10	Feather of poultry ( <i>Gallus gallus domesticus</i> Linnaeus) + <i>Urena lobata</i> Linnaeus (roots) + <i>R. ellipticus</i> Smith (roots)	Pounded and boiled, extract taken	250 ml, thrice daily
14	Bone of fox ( <i>Vulpes bengalensis</i> Shaw) + bone of Macaque ( <i>Macaca</i>	Grated and made into a thick paste	1 tsp in 200 ml water, twice daily



In contrast to the above, sometimes the same species is used by different healers to treat the same illness showing unanimity in the process. An example is given in case of a sinus problem (Table 5) where *Drymaria cordata* (Linnaeus) Willdenow ex Schultes and *Clematis buchananiana* A.P. de Candolle predominate. However, deviations can be observed in the case of Healer 8, 3, 15, 12 and 17. In a similar way, a majority of healers are using a combination of *Swertia chirayita* (Roxburgh ex Fleming) H. Karst and *Actinodaphne citrata* (Blume) Hayata against influenza (9 out of 12 healers). Again, for mumps the healers (8 out of 15) were using *Entada rheedii* Sprengel, as the favored constituent.

**Table 5.** Use of similar constituents for a similar complaint (e.g., sinus problem)

Healer Code	Constituents (serial numbers indicate alternative cures)	Preparation method	Dosage
1	1. <i>Drymaria cordata</i> (Linnaeus) Willdenow ex Schultes (leaves) 2. <i>Clematis buchananiana</i> A.P. de Candolle (fresh roots)	1. Crushed, covered in a cloth and roasted, vapor inhaled through nose 2. Same as above	1. Once daily 2. Once only
7	1. <i>Garcinia cowa</i> Roxburgh ex Choisy (bark) 2. <i>C. buchananiana</i> A.P. de Candolle (flowers)	1. Ground to powder, inhaled through the nose 2. Flowers crushed, inhaled	Taken once or twice Once only
5	<i>C. buchananiana</i> A.P. de Candolle (fresh roots)	Crushed, wrapped in a cloth and inhaled through nose	Once daily
8	<i>Eriobotrya dubia</i> (Lindley) Decaisne (bark)	Made into fine powder and taken as snuff powder	Twice daily
19	<i>C. buchananiana</i> A.P. de Candolle (fresh roots)	Covered in linen piece and roasted on fire, fumes inhaled immediately through nose	Taken once
20	1. <i>D. cordata</i> (Linnaeus) Willdenow ex Schultes (leaves) 2. <i>C. buchananiana</i> A.P. de Candolle (fresh roots)	1. Covered in banana leaf and roasted, inhaled through cotton 2. Crushed and inhaled through cotton covering	As much as possible, daily Once daily
18	<i>C. buchananiana</i> A.P. de Candolle (leaves)	Leaves crushed and inhaled till sneezing ensues	Once daily
2	1a. <i>C. buchananiana</i> A.P. de Candolle (roots), 1b. <i>D. cordata</i> (Linnaeus) Willdenow ex Schultes (leaves) 2a. <i>G. cowa</i> Roxburgh ex Choisy (bark) 2b. <i>Diploknema butyracea</i> (Roxburgh) H.J. Lam (bark)	1a. & 1b. Roasted in fire and fumes inhaled through nose  2a. & 2b. Powdered and inhaled	Taken once or twice  Taken once daily
3	<i>Achyranthes aspera</i> Linnaeus (seeds) + <i>D. cordata</i> (Linnaeus) Willdenow ex Schultes (leaves) + <i>Roscoea purpurea</i> Smith	Roasted on fire and inhaled through nose	Once daily for a week
15	<i>Cynodon dactylon</i> (Linnaeus) Persoon (leaves) + <i>Dendrocalamus hamiltonii</i> Nees (very young shoots)	<i>C. dactylon</i> (L.) Pers. is fried on oil and after cooling applied to nostrils mixed with crushed <i>D. hamiltonii</i> Nees. shoots	Once daily for a week
9	1. <i>C. buchananiana</i> A.P. de Candolle (roots) 2. <i>Mazus pumilus</i> (Burman f.) Steenis (leaves) 3. <i>D. cordata</i> (Linnaeus) Willdenow ex Schultes (leaves)	1. Crushed and vapor taken through nose 2. Taken cooked or raw with water 3. Roasted on fire, vapor inhaled through nose	1. Once daily 2. 200 ml, Once daily 3. Thrice daily



Healers/ Healer Code	Full Moon	New Moon	Days			*Sar n	*Har lo	*Panchak
			Tuesday	Saturday	Sunday			
Sharma Hom Nath	X	X	X	X	X	X	X	X
Sharma Paramanand	NC	NC	NC	NC	NC	NC	NC	NC
Sherpa Dawa Kundi	X	NC	√	√	NC	X	NC	NC
Sherpa Kami	NC	NC	√	√	NC	NC	NC	NC
Sherpa Lakpa	NC	NC	NC	NC	NC	NC	NC	NC
Sherpa Mingma Temba	NC	NC	√	√	NC	NC	NC	NC
Sherpa Mingma Tshering	X	NC	NC	NC	NC	X	NC	X
Sherpa Nim Norbu	X	X	NC	NC	NC	X	NC	X
Sherpa Phur Temba	NC	NC	NC	NC	NC	NC	X	NC
Sherpa Temba	NC	NC	NC	√	NC	NC	√	NC
Subba Prakash	NC	NC	√	√	NC	NC	NC	NC

Ö = auspicious, x = inauspicious, NC = no comments

[\*Sarân, \*Panchak and \*Harlo are specific days in the Hindu almanac where making a new beginning is forbidden or not encouraged because of loss/harm to the person/work at hand.]

The belief in auspicious/inauspicious days for carrying out healing activities has come out with mixed reactions from the study area. Out of the Hindu practitioners in the area 3 out of 7 are staunch believers to this idea, 2 stands somewhere in the middle and 2 have no comments to make showing a shadow of doubt over it. On the contrary, healers from tribal communities who are non-Hindu are following the above mentioned norms where 9 out of 14 believe in auspicious/ inauspicious days. 7 out of 21 healers are of the opinion that successful cure may depend on the dose and frequency prescribed rather than ascribing failure rate on the auspicious/ inauspicious days.

Another prevalent belief in the area is that the *Sûtak* days cast negative effect on the result of herbal treatment (*Sûtak* are the days which follow the events of death or birth in the family and normally lasts ten days). As observed, this particular Hindu belief has a fair share of believers in the study site (18 out of 21 healers). However, it may be noted that during death or birth events people normally have very less or no time to indulge in healing and material collection activities. Therefore, whether all healing activity stops due to unavailability of time or due to the actual belief on restriction as per the *Sûtak* is not clear. Lastly, some of the herbal preparation methods as well as constituents could not be obtained from the healers. It was found that revealing the names or the underlying methods would reduce the efficacy of the constituents and make the treatment ineffective. Whether this belief stands for or against the healing tradition in the area only time can tell and as such remains inconclusive for the present.

## GENERAL CONCLUSION

1. Multi-drug formulation recorded in the Ribdi-Bhareng area is the first of its kind reported from Sikkim Himalaya. Abundance of herbal items, birds and animals in the adjoining

reserve forests have provided a rich pool in selection of healing materials which must have paved the way for development of multi-drug formulation in the area. However, this view needs comparative assessment from similar studies in those areas which are low in biotic resource.

2. Cultural amalgamation of herbal system observed in Ribdi-Bhareng can be attributed to,
  - i) Cultural Diversity: People coming from different locations bringing forth their respective healing methods and materials in the area.
  - ii) Time: Living together for a long time (Ribdi-Bhareng area was opened around CE 1820) obviously helped in exchange/experimentation of different ideas on healing.
  - iii) Remoteness of location: Lack of access to modern health care and extreme remoteness prompted the healers to work more towards finding effective remedies making the fusion of different healing methods inevitable.
3. The aspect of a strong faith factor working behind the successful healing system in Ribdi-Bhareng area was studied; however, the result obtained does not support this assumption. Considering the disparity of views during the inquiry (Table 6) the idea of faith supporting the healing system is open to review.

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### LITERATURE CITED

- Ali, S. 1962. *The Birds of Sikkim*. Oxford University Press, Madras.
- Anonymous. 2007. *Why Some Doctors Serve in Rural Areas: A Qualitative Assessment from Chhattisgarh State*. A Report of PHFI-NHSRC-SHRC, Chhattisgarh.
- Avasthe, R.K. & Jha, A. 1999. *Mammals of Sikkim*. World Wide Fund for Nature-India. Sikkim Field Office, Gangtok.
- Chattopadhyay, S. & Lahiri, A.K. 2001. *Sikkim: The People's Vision*. Indus Publishing Company, New Delhi
- Deuti, K. & Bharati-Goswami, B.C. 1995. *Amphibians of West Bengal Plain*. World-Wide Fund for Nature-India.
- eFloras, 1994. *Flora of China*. Ericaceae. <http://www.efloras.org>. Missouri Botanical Garden, St. Louis, MO & Harvard University Herbaria, Cambridge, MA.
- FAO, 2006. *Participatory Rural Appraisal (PRA) Manual*. FAO doc. no. GCP/RLA/167/EC SFA 2006 St. Lucia.
- Hooker, J.D. 1875-97 *Flora of British India*. Vols. I-VII. L. Reeve & Co., London.
- Jerdan, T.C. 1984 (Reprint). *A Handbook of the Mammals of India : a natural history of all the animals known to inhabit Indian sub-continent*. Mittal Publications.

- Laguerre, M.S. 1987. *Afro-Caribbean folk medicine*. Bergin & Garvey, New York.
- Polunin, O. & Stainton, A. 1984. *Flowers of the Himalaya*. Oxford University Press, Delhi-Bombay-Calcutta-Madras.
- Polunin, O. & Stainton, A. 1987. *Concise Flowers of the Himalaya*. Oxford University Press, New Delhi.
- Stainton, A. 1997. *Flowers of the Himalaya: a Supplement*. Oxford University Press, New Delhi.
- WHO, 2005. *WHO Traditional Medicines Strategy 2002-2005*. Avenue Appia 20, 1211 Geneva 27, Switzerland.
- WHO, 2008. *Traditional Medicine*. World Health Organization. Fact sheet no. 134. <http://www.who.int/mediacentre/factsheets/fs134/en/index.html>.