



Potential medicinal plants growing in kathua district, J&K, India

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ABSTRACT

Medicinal plants have been used by mankind since the beginning of human civilization. The ayurvedic importance of herbs and shrubs are increasing. Nature has been a source of medicinal agents for thousands of years. Medicinal plants have been used by mankind for its therapeutic value and an impressive number of modern drugs have been isolated from natural sources. Medicinal plants produce bioactive compounds such as polyphenols, terpenes, glycosides; used mainly for medicinal purposes. The plant-based, traditional medicine system continues to play an essential role in health care, with about 80% of the world's inhabitants relying mainly on traditional medicines for their primary health care. These compounds either act on different systems of animals including man, or act through interfering in the metabolism of microbes infecting them. The microbes may be pathogenic or symbiotic. In either way the bioactive compounds from medicinal plants play a determining role in regulating host-microbe interaction in favour of the host. The data presentation list contains many medicinal plants generally grown in our Kathua district area of Jammu region of J&K state with their medicinal importance to fight against the diseases. From this particular data we generally get information about our surroundings.

Keywords: Ayurveda, Medicinal plants, Decoction

I. INTRODUCTION

1.1 Medicinal plants

Medicinal plants or we can often say that herbs (herbs :a plant whose stem does not become woody and permanent, but dies at least down to ground after flowering) have been noticed and used from prehistoric times. Plants synthesize many chemical compounds for biological functions, including defence against insects, fungi and herbivorous mammals. Over 12,000 of them are known to us. According to the World Health Organization (WHO, 1977) "a medicinal plant" is any plant, which in one or more of its organs contains substances that can be used for the therapeutic purposes or which, are precursors for the synthesis of useful drugs. These chemicals work on the human body in exactly the same way as pharmaceutical (of or relating to drugs used in medicinal treatment) drugs, as they have many advantages but may have many effects when compared with other conventional drugs. Nature provides us many sources of medicinal plants for thousands of years and their impressive number has been isolated from natural resources. In our country these techniques of taking benefit from these plants will proceed on, from generation to generation. WHO (2001) defines medicinal plant as herbal preparations produced by subjecting plant materials to extraction, fractionation, purification, concentration or other physical or biological processes which may be produced for immediate



consumption or as a basis for herbal products. . According to World Health Organization, medicinal plants would be the best source to obtain a variety of drugs. Therefore, such plants should be investigated to better understand their properties, safety and efficacy [1]. However, since a single plant may contain many substances, the effects of taking a plant as medicine can be complex.

1.2 History

The earliest historical records of herbs are found from the Sumerian civilization(The Sumerian civilization emerged upon the flood plain of the lower reaches of the Tigris and Euphrates Rivers about 4000 B.C), where hundreds of medicinal plants including opium are listed on clay tablets. The Ebers Papyrus (The Ebers Papyrus, also known as Papyrus Ebers, is an Egyptian papyrus of herbal knowledge dating to 1550 BC) from ancient Egypt (Ancient Egypt was a civilization of ancient Northeastern Africa, concentrated along the lower reaches of the Nile River in the place that is now the country) Egypt describes over 850 plant medicines, while Dio scorides [2] documented over 1000 recipes for medicines using over 600 medicinal plants in *De materia medica*, forming the basis of pharmacopoeias for some 1500 years. Drug research makes use of ethnobotany to search for pharmacologically active substances in nature, and has in this way earch for pharmacologically active substances in nature, and has in this way discovered hundreds of useful compounds. They include: Aspirin(also known as acetylsalicylic acid (ASA), is a medication used to treat pain, fever, or inflammation), digoxin(used to treat congestive heart failure and helps in heartbeat more forcefully), quinine(a bitter alkaloid extracted from chinchona bark and used in treatment of malaria), and opium(an addictive narcotic extracted from seeds corpsules of the opium poppy). The compounds found in plants are of many kinds, but most are in four major biochemical classes, the alkaloids(natural bases containing nitrogen found in plant), glycosides (obtained from number of plants and used to stimulate the heart in case of heart failure), polyphenols, and terpenesa(large and diverse class of organic compounds, produced by a variety of plants, particularly conifers, and by some insects such as termites or swallowtail butterflies, which emit **terpenes** from their osmeteria).

Medicinal plants are widely used to treat disease in non-industrialized societies, not least because they are far cheaper than modern medicines as herbs are mainly grown everywhere and now it has been noticed that Indian people generally prefer Ayurvedic medicines which are mainly derived from herbs instead of other medicines which may be harmful for us. , between 50,000 and 80,000 flowering plants are used medicinally (IUCN Species Survival Commission, 2007; Marinelli 2005)[3].Of course, the use of wild species to cure andresist disease is nothing new. More than 80 percent cent of South Asia's 1.4 billion people have no access to modern health care; they rely instead on traditional medicine using native species. Infact, many indigenous and local communities are immense reservoirs of traditional knowledge that can benefit biotechnology, agriculture ,pharmaceutical development, and health care .Use of plants as a source of medicine has been inherited and is an important component of the health care system in India. In the Indian systems of medicine, most practitioners formulate and dispense their own recipes; hence this requires proper documentation and research. In western world also, the use of herbal medicines is steadily growing with approximately 40 percent of population reporting use of herb to treat medical illnesses within the past year . Public, academic and government inter-est in traditional medicines is growing exponentially due to the increased incidence of the ad-verse drug reactions and economic burden of the modern system of medicine [4]. The instant rising demand of plant-based drugs is unfortunately creating heavy pressure on some selected high-value medicinal plant populations in the wild due to over-harvesting. Several of these medicinal plant species have slow growth rates, low population densities, and narrow geographic ranges [5], therefore they are more prone to extinction [6]. There are about 45,000 plant species in India, with

concentrated hotspots in the region of Eastern Himalayas, Western Ghats and Andaman & Nicobar Island. The officially documented plants with medicinal potential are 3000 but traditional practitioners use more than 6000. India is the largest producer of medicinal herbs and is appropriately called the botanical garden of the world. There are currently about 250 000 registered medical practitioners of the Ayurvedic system (total for all traditional systems: approximately 291 000), as compared to about 700,000 of the modern system [7].

1.3 Observed medicinal plants from Kathua (J&K)

Sanjeev Gupta [8] recorded about 115 species of angiosperms and gymnosperm plant of medicinal importance from Kathua district of Jammu (J&K) and some of them are described as under-

1.3.1 *Abrus precatorius* Linn.; Eng. Wiliquorice, Crab-eyed Creeper; Hindi *Rati, Gungchi*; Vern. *Ratti, Raktaan bel*; etti, Gunja commonly known as: jequirity or crabs inchem, Rosary pea

Family- Papilionaceae

Medicinal Uses: Used in cough & cold, colic pain, rheumatism. Also induces abortion. Seeds in small doses act as purgative. Eye complaints like the purulent conjunctivitis, ulcers, inflammation which spreads to the face and neck, brain tumour, hyper tension, snake bite (in its late sequel) also cured by crab eyed creeper.



Abrus precatorius

1.3.2. *Acacia nilotica*, L.; Eng. Egyptian thorn; Hindi *Babool*; Vern. *Kikar*;

Family- Mimosaceae

Medicinal Uses: The decoction of bark yields spongy gum which is useful in sore throat, for washing ulcers, to stop bleeding from wounds, skin diseases and as an astringent for diarrhea & leucorrhoea. Also used against eye ailments and liver complaints.



Acacia nilotica

1.3.3. *Achillea millefolium* L.; Hindi *Gandhna*; Vern. *Dare di jadi, Pahale kutch, Gandhna*;

Family- Asteraceae.

Medicinal Uses: Roots & stems are crushed & used against toothache. Decoction used in colds & as tonic.



Achillea millefolium

1.3.4. *Achyranthus aspera* Linn.; Hindi *Chirchita, Latzira, Apamarg*; Vern. *Pudkanda*;

Family- Mimosaceae

Medicinal Uses: Used in renal dropsy, bronchial disorders, eye complaints, hydrophobia, insect bite, leucoderma, piles, whooping cough & rheumatism. Root paste is administered to stop bleeding after abortion & also to facilitate delivery. Roots are very effectively used as tooth-brush to stop bleeding of gums.



Achyranthus aspera

1.3.5. *Acorus calamus* Linn.; Hindi *Vach*; Vern. *Bariyan*;

Family- Araceae.

Medicinal Uses: The decoction of bark yields spongy gum which is useful in sore throat, for washing ulcers, to stop bleeding from wounds,



Acorus calamus

skin diseases and as an astringent for diarrhea & leucorrhoea. Also used against eye ailments and liver complaints.

1.3.6. *Adhatoda vasica* Nees.; Hindi *Vasaka, Adusa*; Vern. *Brankad*;; Malabar nut, Adhatoda

Medicinal use: all parts of this plant is used as a medicine, it treat indigestion, skin diseases and excessive bleeding, hemorrhoids, inflammation and asthma.

Disadvantage: it is not given to the pregnant women and babies.



Adhatoda vasica

1.3.7. *Adiantum capillus-veneris*; Vern. *Hanspadi, Dumtuli, Kaki*;

Family- Adiantaceae.

Medicinal Uses: Whole plant is used as febrifuge, demulcent, diuretic, tonic & cough medicine.

The Mahuna people use the plant internally for rheumatism[9]: any disorder of the extremities or back, characterized by pain and stiffness



Adiantum capillus

1.3.8 *Aegle marmelos* Corr.; Eng. Bael, Bengal Quince; Hindi *Bel*;

Vern. *Bil-patri*;

Family- Rutaceae;

Medicinal Uses: The unripe fruit is astringent, stomachic, antiscorbutic and digestive. The ripe fruit is good for the heart, brain, digestive system & for back pain.



Aegle marmelos

1.3.9. *Aesculus indica* (Colebr. Ex. Cambess.) Hook.; Eng. Horse Chestnut;

Vern. *Goon*;

Family- Hippocastanaceae

Medicinal Uses: Oil from the seeds is externally applied against rheumatism.

Seeds are given to horses in colic pain.



Aesculus indica

1.3.10. *Ajuga bracteosa* Wallich ex Benth.; Vern. *Neelkainthi*;

Family- Lamiaceae.

Medicinal Uses: Leaf powder is bitter in taste & used with *gur* on daily basis to get relief from diabetes. Leaf juice finds use as bloodpurifier & also for fever & gonorrhoea.



Ajuga bracteosa

1.3.11. *Aloe vera* Tourn. Ex Linn.; Eng. Barbados Aloe; Hindi *Ghee-Kunwar*;

Vern. *Kawaar-Gandal, GheeKunwar*

Family- Liliaceae.

Medicinal Uses: Leaves are used as stomachic, aphrodisiac, astringent,



Aloe vera

in burn injuries, as a treatment of non healing ulcers and effective as a tooth paste in fighting property and as a antioxidant and anti microbial property.

1.3.13. *Anethum graveolens*, Linn.; Vern. Name *Koadi sounf*;

Family- Apiaceae.

Medicinal Uses: It is used as diuretic, emmenagogue and galactagogue, The decoction of seeds is a house-hold remedy as a stomachic medicine particularly for infants and women.

1.3.14. *Arisaema flavum*, (Forsskal) Schott.; Vern. *Sapp-kukdi*;

Family- Araceae.

Medicinal Uses: The paste made from tubers is used in foot & mouth disease of cattle and also applied in snake bite. It is also used in the treatment of chronic tracheitis ,tetanus,and epilepsy.

1.3.15. *Artemisia absinthium*, Linn.; Eng. Worm Wood ; Vern. *Shambar*;

Family- Asteraceae.

Medicinal Uses: Leaves & fronds are used for the extraction of drug santonin which is vermifuge & tonic. Herbal tea is recommended for pregnant women during labour pains.

1.3.16. *Artemisia capillaris* Thunb. (Syn. *Artemisia scoparia*); Eng.

Red-stem wormwood; Vern. *Name: Danti*;

Family: Asteraceae.

Medicinal Uses: The plant is anticholesterolemic, antipyretic, antiseptic, diuretic and vasodilator. It has been used for the remedy of liver diseases such as hepatitis ,jaundice and fatty liver in traditional oriental medicine.

1.3.17. *Asparagus adscendens* Roxb.; Eng. Asparagus; Hindi *Safed-*

Musli; Vern. *Sainspaur, Chitti-musli*;

Family- Liliaceae;

Medicinal use: used to increase sperm count in male.

1.3.18. *Azadirachta indica* A. Juss.; Eng.; Hindi *Neem*; Vern. *Nemm*;

Family- Meliaceae;

Medicinal Uses: Leaves are Anthelmintic, expetorantc, diuretic and insecticidal. Bark is bitter tonic

1.3.19. *Barleria prionitis*; Eng. Yellow Hedge Barleria; Hindi *Karunta*;

Vern. *Kanda-Barenkar, Vajrandanti*;

Family- Acanthaceae.

Medicinal Uses: Bark is given in dropsy & whooping cough. Also recommen



Anethum graveolens



Arisaema flavum



Artemisia absinthium



Artemisia capillaris



Asparagus adscendens



Azadirachta indica



Barleria prionitis

in ear complaints, gum troubles, piles, rheumatism & tuberculosis.

1.3.20. *Bauhinia variegata* L.; Eng. Mountain ebony; Hindi *Kachnar*; Vern. *Krail*;

Family- Caesalpiniaceae..

Medicinal Uses: Bark is anti-inflammatory, useful in skin diseases, scrofula and ulcers. The bark is alterative tonic, blood purifier, anthelmintic and astringent. Its decoction is given in scrofula, ulcers, syphilis, leprosy and other skin diseases. It is an effective wash for skin diseases, also useful in diarrhoea and liver complaints.



Bauhinia variegata

1.3.21. *Boerhavia diffusa*; Vern. *Itt-sitt*, *Gadhapurna*, *Santhi*;

Family- Nyctaginaceae.

Medicinal Uses: Root is used in treatment of eye troubles, asthma, jaundice, general weakness & urinary complaints. Also used in epilepsy, headache, rheumatism, menstrual complaints, itch & eczema.



Boerhavia diffusa

1.3.22. *Berberis lyceum* Royle.; Eng. Barberry; Hindi *Daruharidra*;

Vern. *Kemblu*, *Sumblu*, *Rasount*;

Family- Berberidaceae.

Medicinal Uses: Root bark yields *rasount* of commerce which is employed for the cure of ulcers, fevers, bleeding piles & eye sores.



Berberis lyceum

1.3.23. *Cannabis sativa* L.; Eng. Hemp; Hindi *Marijuana*, *Bhaang*;

Vern. *Bhaang*;

Family- Cannabinaceae.

Medicinal Uses: Plant yields 'Charas' & 'Ganja' which in action are sedative, appetizer, narcotic & toxic. Leaf juice is useful in dandruff & lice infestation.



Cannabis sativa

1.3.24. *Cardiospermum helicacabum*; Hindi *Karan-Saphota*; Vern.

Kanphuti, *Pataki*;

Family- Sapindaceae.

Medicinal Uses: Plant juice is used as an emmenagogue in ammenorrhoea, as demulcent, in gnorrhoea & pulmonary diseases.



Cardiospermum helicacabum

1.3.25. *Cassia tora* Linn.; Eng. Pot Cassia; Hindi *Chakunda*, *Chakramard*;

Vern. *Lauki hedma*;

Family- Caesalpiniaceae.

Medicinal Uses: Leaves are used to treat skin ailments, headache & other body pains. Also used as adulterant of coffee.



Cassia tora

1.3.26. *Cassia occidentalis*, Linn.; Eng. Ant- bush; Vern.

Name *Baddi Heduyan*; **Family:** Caesalpiniaceae.

Medicinal Uses: Leaves, roots and seeds have been found to be purgative and



Cassia occidentalis

are useful in cough and whooping cough. Leaves has many uses as a antimalarial, antibacterial , antiplasmodial, anticarcinogenic, yellow fever and headache

1.3.27. *Calotropis procera* R. Br.; Eng. Akund, Swallow wart; Hindi *Safed ak*;
Vern. *Ak-datura, Jangli Ak*;

Family- Apocynaceae (sub fam. Asclepidoideae)

Medicinal Uses: Flowers are used in cough, cold & asthma. Latex is used in skin diseases and also considered abortifacient. It is also recommended in epilepsy, rheumatism, spleen complaints & toothache.

1.3.28. *Colebrookia oppositifolia* Smith.; Eng. Indian Squirrel Tail;
Hindi *Binda*; Vern. *Dhuss*;

Family- Lamiaceae

Medicinal Uses: Leaves are applied on painfull joints & swelling.

1.3.29 *Cryptolepis buchanani* Roem. & Sch.; Hindi *Krishna-Saariva*;
Vern. *Kali- Terni*;

Family- Ascelpiadaceae.

Medicinal Uses: Bark is used against urinary troubles, loss of appetite & anaemia.

1.3.30. *Centella Asiatica* (Linn.) Urb.; Eng. Asiatic Pennywort; Hindi *Mandukparni, Brahmi*; Vern. *Brahmi-booti, Ghor-sumbi*;

Family- Apiaceae.

Medicinal Uses: Used in the preparation of PEP-UP syrup and this syrup recommended for improving digestion and appetite. Also used for as substitute for *Neer- Brahmi* in various preparations. Also used in jaundice, reduce hairfall, treat bleeding disorder, joint pain, blood pressure, asthma.

1.3.31. *Centratherum anthelminiticum*; Hindi *Somraj*; Vern. *Banjiri*;

Family- Asteraceae.

Medicinal Uses: Seeds are used as anthelmintic to expel worms.

1.3.32. *Chenopodium album* L.; English. Goose Foot, Fat Hen, Pigweed;
Vern. *Bathu*;

Family- Chenopodiaceae.

Medicinal Uses: Leaves are used in diarrhea & dysentery and also useful in diabetes.

1.3.33. *Cirsium wallichii* DC.; English. Horse Thistle; Vern. *Kandshar, Bhuss*;

Family- Asteraceae.

Medicinal Uses: Leaf extract is useful in stomach ailments.



Calotropis procera



Colebrookia oppositifolia



Cryptolepis buchanani



Centella Asiatica



Centratherum anthelminiticum



Chenopodium album



Cirsium wallichii

1.3.34. *Cissampelos pareira* Linn.; Hindi *Patha*; Vern. *Katordu*,
Battal Bel, *pahre*;

Family- Menispermaceae.

Medicinal Uses: Dried roots are diuretic, stomachic & astringent.
Useful in dyspepsia, diarrhea, dropsy & catarrhal disorders.



Cissampelos pareira

1.3.35. *Costus speciosus*; Eng. Spiral Ginger; Vern. *Keu*, *Chamar-gatha*,
Sape-di-kukdi;

Family- Zingiberaceae.

Medicinal Uses: Root is used medicinally It is considered as astringent, purgative,
stimulant & anthelmintic. Also effective against eye complaints, jaundice, leprosy,
snake bite & urinary complaints. Exploited for the production of steroid hormones.



Costus speciosus

1.3.36. *Cleome gynandra* Linn.; Hindi *Hulhul*; Vern. *Chitti neoli*, *Bhutmula*;
Family- Capparaceae.

Medicinal Uses: Leaf paste is recommended in rheumatism, neuralgia &
headache. Seeds are rubefacient & anthelmintic. Also useful in scorpion bite.



Cleome gynandra

1.3.37. *Curcuma aromatica* Salisb.; Eng. Wild Turmeric; Hindi *Haldi*; Vern
. *Halder*;

Family- Zinziberaceae.

Medicinal uses: Rhizomes are used in gastric acid, asthma, intestinal ulcers,
Bronchitis & whooping cough.



Curcuma aromatica

1.38. *Cuscuta reflexa* Roxb.; Eng. Dodder; Vern. *Andle*, *Amar bel*;

Family- Cuscutaceae.

Medicinal Uses: Plant is useful in the infections of Scalp & hair wash as well.



Cuscuta reflexa

1.3.39. *Cassia fistula* Linn.; Eng. Indian Laburnum, Golden Shower;

Hindi *Amaltas*; Vern. *Krongal*, *Keyaal*, *Sinaru*;

Family- Caesalpiniaceae.

Medicinal Uses: The pulp of the fruits is laxative & used in curing constipation.
The plant is also used in cough, urine problem & joint pains.



Cassia fistula

1.3.40. *Catunaregum spinosa* (Thunb.) Tirveng.; Hindi *Mainhar*,

Madan; Vern. *Rara*;

Family- Rubiaceae.

Medicinal use: antispasmodic ,emetic fruit,bark is sedative and
taken in case of diarrhea and dysentery. And also given in fever to relieve bone-ache.



Catunaregum spinosa

1.3.41. Cordia obliqua: Hindi Bada-risalla, Lasora; Vern. Lasura;

Family- Boraginaceae;

Medicinal Uses: Bark is useful against infections of mouth. Fruits are used in cholera, dysentery & dropsy.

A middle-sized deciduous tree with grey to brown bark. Leaves are simple, large, broad-ovate, margins wavy, coriaceous and glabrous above. Flowers are white, polygamous and in corymbose cymes. Drupe is yellow and glossy when ripe, usually seeded and filled with viscid pulp.



Cordia obliqua

1.3.42. Crataeva adansonii DC. Subsp. odora Jacobs.; Eng. Sacred barna ;

Hindi Barna; Vern. Barna;

Family- Capparaceae.

Medicinal Uses: Bark is demulcent, antipyretic, & sedative, useful against urinary troubles, fever & gastric irritation.

A deciduous tree having lenticellate branchlets & trifoliolate leaves. Flowers pale Yellow or white



Crataeva adansonii

1.3.43. Cyperus rotundus L.; Hindi Mustaka; Vern. Deela, Motha;

Family- Cyperaceae.

Medicinal Uses: Bulbous roots are astringent, anthelmintic, stomachic & emmenagogue. A poultice of roots is used on wounds, sores & ulcers.



Cyperus rotundus

1.3.44. Datura stramonium Linn.; Eng. Thorn Apple, Stramonium;

Hindi Dhatura; Vern. Datura;

Family: Solanaceae

Medicinal Uses: All parts are strongly intoxicant, narcotic, aphrodisiac, antispasmodic. Also used in asthma, whooping cough & bronchitis.



Datura stramonium

1.3.45. Dioscorea deltoidea, Wallich ex Griseb.; Eng. Yam; Hindi Shingli-Mingli

Family- Dioscoreaceae.

Medicinal Uses: Tubers are a source of diosgenin which is used in the manufacture of contraceptive pills. Also used for curing swellings and sprains by local people.



Dioscorea deltoidea

1.3.46. Eclipta alba; Eng. Marsh Daisy; Hindi Babri, Bhangra;

Vern. Bhangra, Bhringraj;

Family- Asteraceae;

Medicinal Uses: Useful against enlargement of liver, spleen & various skin



Eclipta alba

diseases. Leaves are given in cough, alopecia & jaundice. Also used in hair oils.

1.3.47. *Ephedra gerardiana*, Wallich ex Stapf.; Eng. Joint Pine, Desert Tea, Joint Fir, Young Weed; Hindi *Asmani-booti*; Vern. *Trudak, Tutjod, Asmani-booti*;
Family- Ephedraceae.

Medicinal uses: Dried twigs are used to get Ephedrine drugs for cure of asthma & also treat bronchitis, rheumatism, syphilis & heart ailments (cardiac stimulant)



Ephedra gerardiana

1.3.48. *Emblica officinalis* Gaertn.; Eng. Emblic Myrobalan, Indian Gooseberry; Vern. *Amla*; Sanskrit *Amulki, amalaki, amala*;

Family- Euphorbiaceae;

Medicinal Uses: it is an important constituent of *Triphla* which is used as laxative and in treatment of piles, liver, stomach complaints, anaemia, heart complaints, urinary troubles.



Emblica officinalis

1.3.49. *Eucalyptus citriodora* Hooker.; Eng. Eucalyptus; Hindi *Safeda*; Vern. *Safeda*;
Family- Myrtaceae.

Medicinal Uses: Decoction of leaves is useful in cough & cold.



Eucalyptus citriodora

1.3.50. *Bacopa monnieri* : named after God consciousness or Brahman
Commonly known as brahmi booti ; goti kola .

Medicinal use: one of the most powerful brain toxin in ayurveda which supports restful sleep, calm emotional turbulence and simultaneously create alertness and it is also known that this booti also support the body natural healing process and healthy blood circulation.



Bacopa monnieri

1.3.51 *Evolvulus alsinoides*: English: little glory, hindi: mar ;
Sanskrit: vishmugandhi .

Family- Convolvulaceae.

Medicinal Uses: Dried flowers are astringent, given in leucorrhoea, menorrhoea, piles & liver complaints.



Evolvulus alsinoides

II. CONCLUSION

Demands of Medicinal plants in ayurveda have been increased day by day and other services is considerable which is related to the demand of western healthcare services .The demand for medicinal plants is likely to remain increase in the future. Consumers indicated that indigenous medicine was not an inferior good and demand is unlikely to reduce should income levels and welfare increase in the coming days. On the contrary, urban consumers indicated that indigenous medicine was more expensive than the subsidized western health



services provided by the government, yet they reported that they would be likely to either maintain or increase the frequency of use in the coming period.

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