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Medicinal Plants and their Uses Against Gastrointestinal Disorders in Pokhara

***Om Prasad Dwa**

ABSTRACT

The paper describes the uses of local plants against GI problems in Pokhara Valley. The findings of the study are based on the experience and indigenous knowledge of people rather than clinical or scientific evaluation. This execution tries to highlight the significance of traditional medicinal plants for the treatment of major health issues i.e. GI problems in Pokhara valley of Nepal. Many studies on the medicinal uses of plants show that traditional medicine is an integral part of rural Nepal. According to the result, rural people of Pokhara valley use 101 plants belonging to 61 families. Listed families are Acanthaceae, Amaranthaceae, Anacardiaceae, Apocynaceae, Araceae, Acleridaceae, Aspidaceae, Asteraceae, Berberidaceae, Bignoniaceae, Bombacaceae, Cannabinaceae, Capridaceae, Caricaceae, Caryophyllaceae, Chenopodiaceae, Combretaceae, Commelinaceae, Crassulaceae, Cuscutaceae, Cyperaceae, Dioscoreaceae, Dipterocarpaceae, Elaeagnaceae, Euphorbiaceae, Fabaceae, Gentianaceae, Lamiaceae, Lauraceae, Liliaceae, Linaceae, Lythraceae, Magnoliaceae, Malvaceae, Meliaceae, Menispermaceae, Musaceae, Moraceae, Myricaceae, Myrtaceae, Nephrolepidaceae, Nyctaginaceae, Nymphaeaceae, Oxalidaceae, Pinaceae, Piperaceae, Poaceae, Polygonaceae, Punicaceae, Rhamnaceae, Rosaceae, Rutaceae, Sapindaceae, Solanaceae, Theaceae, Trapaceae, Ulmaceae, Umbelliferae, Urticaceae, Vitaceae, Zingiberaceae.

Keywords: *Gastrointestinal disorders, health issues, indigenous knowledge, Pokhara*

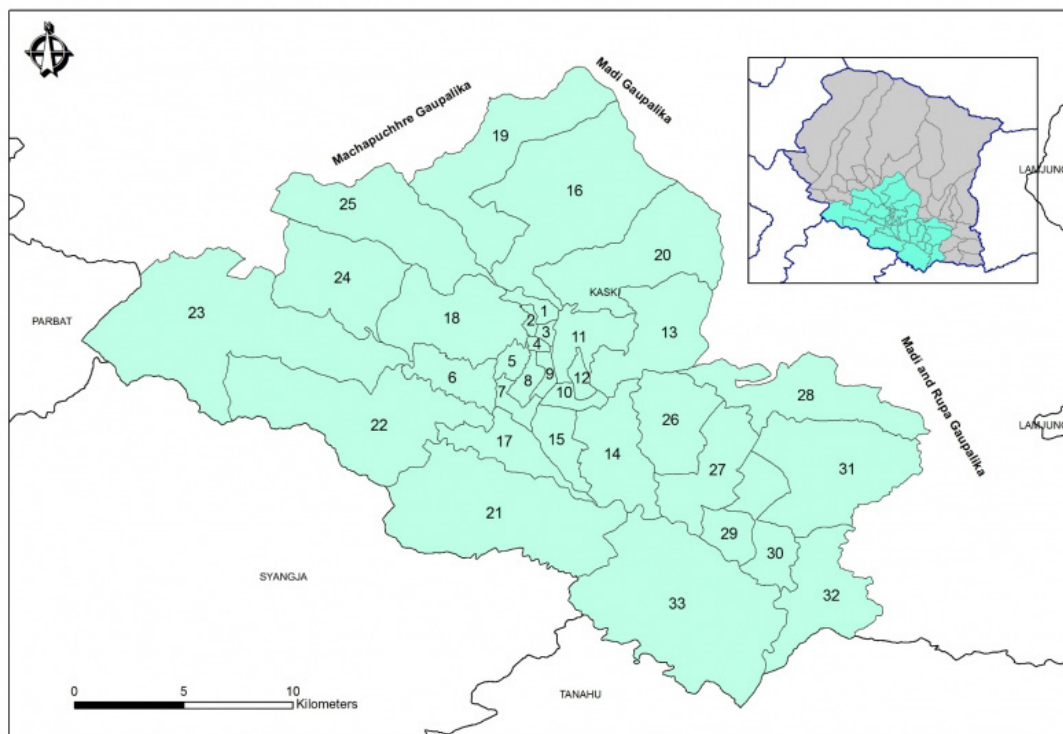
INTRODUCTION

The gastrointestinal tract in the human body is a muscular pipe way of the digestive system. It starts from the mouth and ends at the anus. It comprises the mouth, esophagus, stomach, and intestines. It is the passage through which food and water travel from the mouth after being swallowed. This passage involves digestion, absorption of food particles, and expelling residual food parts. Nowadays, people suffer from different kinds of gastrointestinal troubles like abdominal discomfort, vomiting, nausea, acid reflux, diarrhea, dysentery, indigestion, constipation, fecal incontinence, stomachache, loss of appetite, bloating, and difficulty in swallowing. Among these, diarrhea, dysentery, stomachache, indigestion, constipation, vomiting, and nausea are most common. GI disease is most common in the context of Pokhara Valley. Lack of sanitation, a balanced diet, hygienic water, and proper knowledge are key factors for sustaining such conditions. It is a bitter fact that people do not care about these problems as seriously. There is a lack of good health facilities in the rural area. All of this lead to the gradual deterioration of public health in such area. However, people of rural areas trust medicinal plants found around them and use them. Therefore, the aim of this execution is to document such indigenous knowledge and explore them for benefit of people.

MATERIAL AND METHODS

This paper deals with the medicinal uses of local plants against GI problems in Pokhara Valley. This work was executed from December 2020 to July 2021. The Pokhara Valley is located approximately in the center part of Nepal. It is 200 kilometers west of Kathmandu, the federal capital city of Nepal. It is the largest metropolis by area in Nepal and serves as the district and Province headquarters. The valley shows dense plants of diverse types, both aquatic and terrestrial. The areas undertaken for study are hilly and rural surrounding hills.

The format was set to collect necessary information regarding herbal uses of plants against GI troubles. For this, two groups were formed as per the age of respondents. The first group of 20 respondents ranges from 25 to 45 and the second group of 20, ranges from 45 to 65. These groups were based not only on their age but on their interest, knowledge, and utilization attitude of such plants. Necessary information was collected using the survey technique with verbal interviews. The questions were focused on parts of use and methods of use of medicinal plants for GI disorders. Before documentation, few open discussions were conducted with local people.



DISCUSSIONS

A total of 101 plants were recorded during this study which has been used to treat GI problems. Among these, tree comprises 37.62%, shrubs 21.78%, herbs 35.64%, and the rest 4.95%. Similarly, uses as plant parts show root 17.82%, stem 2.97%, bark 25.74%, leaves 18.81%, flowers 5.94%, fruits 25.74%, seeds 7.92%, whole plant 14.85%, tender shoot 1.98%, bud 2.97%, rhizome 3.96%, root tuber 2.97%, milky latex 1.98%, bulb 0.99%, and resin 0.99%. Similarly, medicinal plants used as per family are Fabaceae (10 species), Euphorbiaceae (6 species), Moraceae (6 species), Anacardiaceae (4species), and Rutaceae (4 species). These medicinal plants are more effective to treat diarrhea and dysentery which are the most common health problems in the context of Pokhara Valley.

1. *Acacia catechu* (L.F.) Wild.

Family: Fabaceae; Vernacular name: Khayar, English common name: Catechu tree.

Parts used: Stem and Bark

Uses: Stem and bark infusion is taken for constipation, diarrhea, and dysentery.

2. *Achyranthus aspera* Linn.
Family: Amaranthaceae; Vernacular name: Datiwan /Apamarga, English common name: Chaff flower.
Parts used: Root.
Uses: Root juice and paste are used to cure cholera, constipation, nausea, vomiting, stomachache, diarrhea, and dysentery.
3. *Acorus calamus* Linn.
Family: Araceae; Vernacular name: Bojho, English common name: Sweet flag
Parts used: Rhizome.
Uses: Rhizome juice is used to treat diarrhea, cholera, dysentery, dyspepsia, and stomachache.
4. *Aegle marmelous* (L.) Correa.
Family: Rutaceae; Vernacular name: Bel. English common name: Bel.
Parts used: Leaf and fruit.
Uses: Leaf extract is useful in diarrhea and amoebic dysentery, and the pulp of unripe fruit is used for constipation, intestinal disorders, ulcers, and indigestion.
5. *Allium wallichii* Kunch.
Family: Liliaceae; vernacular name: Jangali lahsun. English common name: Wild garlic.
Parts used: Bulbs
Uses: Bulbs are taken against cholera and diarrhea.
6. *Aloe vera* Linn.
Family: Liliaceae; vernacular name: Gheukumari. English common name: Indian aloe.
Parts used: Leaf
Uses: Juice obtained from the leaf is used against constipation, indigestion, dysentery, hemorrhoids, peptic ulcer, intestinal worms, and stomach problems.
7. *Artemisia vulgaris* Linn.
Family: Asteraceae; Vernacular name: Titepati. English common name: Indian worm weed.
Parts used: The whole plant
Uses: The plant is useful to treat abdominal pain, dyspepsia, diarrhea, and dysentery and is taken as stomachic and anthelmintic.
8. *Alstonia scholaris* (L.) R.Br.
Family: Apocynaceae; Vernacular name: Chattiwan, English common name: Devil's

tree.

Parts used: Bark

Uses: Bark juice is useful to treat constipation, dyspepsia, diarrhea, and dysentery.

9. *Amaranthus spinosus* Linn.

Family: Amaranthaceae; Vernacular name: Latte. English common name: Trailing amaranthus.

Parts used: Root

Uses: Root juice is effective in diarrhea and dysentery.

10. *Asparagus racemosus* Wild.

Family: Liliaceae; Vernacular name: Kurilo, English common name: Asparagus.

Parts used: Root and tuber

Uses: Root juice is taken for constipation, flatulence, dyspepsia, and stomach problems, and tuber is useful for diarrhea and dysentery.

11. *Azadirachta indica* A. Juss.

Family: Meliaceae; Vernacular name; Neem. English common name: Margosa tree.

Parts used: Leaf and Bark

Uses: Leaf and bark juice are useful against diarrhea and dysentery.

12. *Bauhinia variegata* Linn.

Family: Fabaceae; Vernacular name: Koiralo, English common name: Mountain ebony.

Parts used: Bark and flower

Uses: Bark and flower juice are used to cure diarrhea, and dysentery, and expels internal worms too.

13. *Berberis aristata* DC.

Family: Berberidaceae; Vernacular name: Chtro, English common name: Nepal's Barbary.

Parts used: Bark

Uses: Bark juice is useful to treat diarrhea.

14. *Bombax ceiba* Linn.

Family: Bombacaceae; Vernacular name: Simal, English common name: Silk cotton tree.

Parts used: Bark, flower, and seed

Uses: Bark juice is used against abdominal pain, intestinal spasms, colic, stomachache, and indigestion; flowers and seeds are useful to treat dysentery.

15. *Bryophyllum pinnatum (Lam) Oken.*
Family: Crassulaceae; Vernacular name: Ajambari/ Pattharchatta, English common name: Sprout leaf plant.
Parts used: leaf
Uses: The leaf is taken as anthelmintic and gastro-protective and is useful to treat stomach problems, dyspepsia, and gastric ulcers.
16. *Butea monosperma (Lamk) Taub.*
Family: Fabaceae; Vernacular name: Palas, English common name: Flame of the forest.
Parts used: Bark and gum
Uses: Bark is anthelmintic in property and is useful to cure ulcers. The gum is used in the treatment of diarrhea and dysentery.
17. *Calotropis gigantea (L.) Dryand.*
Family: Asclepiadaceae; Vernacular name: Ank, English common name: Giant milkweed.
Parts used: Bark and root
Uses: Bark juice is used against the bloody stool and root juice for diarrhea and dysentery.
18. *Cannabis sativa Linn.*
Family: Cannabinaceae; Vernacular name: Bhang, English common name: English hemp
Parts used: Leaf
Uses: Leaf juice is taken to cure diarrhea and dysentery.
19. *Capsicum frutescens Linn.*
Family: Solanaceae; Vernacular name: JyanmaraKhursani, English common name: Tabasco Pepper.
Parts used: Fruit
Uses: Fruit is stomachic and useful in indigestion, diarrhea, and ulcer.
20. *Carica papaya Linn.*
Family: Caricaceae; Vernacular name: Mewa, English common name: Papaya.
Parts used: Milky latex
Uses: Milky latex is taken for dysentery.
21. *Cassia fistula Linn.*
Family: Fabaceae; Vernacular name: Rajbrikshya, English common name: Cassia Pod.
Parts used: Fruit

- Uses: The fruit pulp is effective to treat stomach problems, indigestion, and constipation.
22. *Cassia tora* Linn.
Family: Fabaceae; Vernacular name: Tapre, English common name: Sickle senna.
Parts used: Leaf
Uses: The leaf powder is useful in stomach pain and indigestion.
23. *Celtis australis* Linn.
Family: Ulmaceae; Vernacular name: Khariko bot, English common name: European Nettle tree.
Parts used: Fruit
Uses: The fruit is used in colic.
24. *Centella asiatica* (L.) Urban.
Family: Umbelliferae; Vernacular name: Ghondtapre, English common name: Pennywort.
Parts used: The whole plant
Uses: The plant juice is used against indigestion and loss of appetite.
25. *Chenopodium album* Linn.
Family: Chenopodiaceae; Vernacular name: Bethe, English common name: Wild spinach.
Parts used: The whole plant and Seed
Uses: Powder of seeds is useful in abdominal pain and the plant is taken against digestive disorders, dyspepsia, indigestion, intestinal worms, peptic ulcers, piles, dysentery, and constipation.
26. *Choerospondias axillaris* (Roxb.) Burt et Hill.
Family: Anacardiaceae; Vernacular name: Lapsi, English common name: Nepali Hog plum.
Parts used: Bark
Uses: The bark is used in dysentery.
27. *Cinnamomum tamala* (Buch.-Ham.) Nees et Eberm.
Family: Lauraceae; Vernacular name: Tejpat, English common name: Cinnamomum.
Parts used: Leaf and bark
Uses: The leaf juice is useful for curing gastritis, and bark juice is taken for colic pain, intestinal disorder, stomachache, nausea, and vomiting.
28. *Citrus limon* (Linn.) Burn. F.

Family: Rutaceae; Vernacular name: Kagati. English common name: Lemon.

Parts used: Leaf

Uses: The leaf is taken raw for dysentery, dyspepsia, and for removing intestinal worms.

29. *Citrus medica* Linn.

Family: Rutaceae; Vernacular name: Bimiro, English common name: Citron.

Parts used: Root

Uses: The root juice is useful in colic, diarrhea, dyspepsia, piles, indigestion, constipation, vomiting, and removing intestinal worms.

30. *Commelina benghalensis* Linn.

Family: Commelinaceae; Vernacular name: Kane sag, English common name: Tropical spiderwort.

Parts used: Root

Uses: Root juice is effective for indigestion.

31. *Crataeva religiosa* Forst.

Family: Capparidaceae; Vernacular name: Sipligan, English common name: Bengal quince.

Parts used: bark

Uses: The bark is used as a stomachic.

32. *Curcuma longa* Linn.

Family: Zingiberaceae; Vernacular name: Kalo haledo, English common name: Wild turmeric.

Parts used: Rhizome

Uses: The rhizome is useful as an anthelmintic and given for diarrhea.

33. *Cuscuta reflexa* Roxb.

Family: Cuscutaceae; Vernacular name: Akashbeli, English common name: Dodder/Cuscuta.

Parts used: The whole plant

Uses: The plant is used as an anthelmintic and is useful to treat diarrhea.

34. *Cynodon dactylon* (L.) Pers.

Family: Poaceae; Vernacular name: Dubo, English common name: Dub/Bermuda grass.

Parts used: The whole plant

Uses: The plant juice is useful to cure gastric disorder and indigestion.

35. *Cyperus rotundus* Linn.

- Family: Cyperaceae; Vernacular name: Mothe, English common name: Nutsedge.
 Parts used: Root tuber and Rhizome.
 Uses: Root tubers are used against stomachache and rhizome extract is for diarrhea and dysentery.
36. *Dalbergia sissoo* Roxb.exDc.
 Family: Fabaceae; Vernacular name: Sisau, English common name: Sisoo.
 Parts used: Bark and leaf.
 Uses: The leaf and bark juice is taken against diarrhea and dysentery.
37. *Dendrocalamus hamiltoni* Nees & Arnott ex Munro.
 Family: Poaceae; Vernacular name: Tamabans, English common name: Bamboo.
 Parts used: Tender shoot
 Uses: Tender shoot is useful to cure stomach inflammation.
38. *Dioscorea deltoidea* Wall ex Kunth.
 Family: Dioscoreaceae; Vernacular name: Gittha, English common name: Cush Yam.
 Parts used: Buds
 Uses: Boiled axillary buds are used to cure bloody dysentery and gastric problem.
39. *Drymeria cordata* wild.Sensu FBI.
 Family: Caryophyllaceae; Vernacular name: Abhijalo, English common name: Sandwort.
 Parts used: The whole plant
 Uses: The plant extract is useful in the treatment of diarrhea and dysentery.
40. *Dryopteris cochleata* (D.Don.) C. Chr.
 Family: Aspidiaceae; Vernacular name: Neuro, English common name: Wood ferns.
 Parts used: The whole plant
 Uses: The plant extract is useful to cure diarrhea and dysentery.
41. *Elaeagnus latifolia* Linn. Sensu FBI.
 Family: Elaeagnaceae; Vernacular name: Guyalo, English common name: Bastard oleaster.
 Parts used: Fruit.
 Uses: The fruit is helpful to overcome stomach problems.
42. *Erythrina variegata* Linn.
 Family: Fabaceae; Vernacular name: Phaledo, English common name: Indian coral tree.
 Parts used: Bark and leaf
 Uses: The bark is useful in dysentery and leaf juice is anthelmintic and stomachic.

43. *Euphorbia hirta* Linn.
Family: Euphorbiaceae; Vernacular name: Dudhilo, English common name: Australian asthma herb.
Parts used: The whole plant.
Uses: The root juice is useful to prevent vomiting and digestion. The plant juice is taken for diarrhea and dysentery.
44. *Euphorbia royalena* Boiss.
Family: Euphorbiaceae; Vernacular name: Shiudi, English common name: Royle's Spurge.
Parts used: Stem
Uses: Boiled stem pith is useful against diarrhea, gastric problems, indigestion, and stomach disorders.
45. *Ficus benghalensis* Linn.
Family: Moraceae; Vernacular name: Bar, English common name: Banayan tree.
Parts used: Bark and milky latex
Uses: Milky latex is useful for ulcers and infusion of the bark is used against diarrhea and dysentery.
46. *Ficus lacor* Buch-Ham.
Family: Moraceae; Vernacular name: Kauro, English common name: Java fig.
Parts used: Bark, bud, and seed.
Uses: The bark is used in gastric problems and ulcers, a decoction of bud in ulcers, and seeds in stomach disorders.
47. *Ficus racemosa* Linn.
Family: Moraceae; Vernacular name: Dumri, English common name: Cluster fig.
Parts used: Stem sap
Uses: Stem sap is used on the affected area to cure stomachache.
48. *Ficus religiosa* Linn.
Family: Moraceae; Vernacular name: Peepal, English common name: Peepal tree.
Parts used: Bark
Uses: The bark juice is useful to treat diarrhea and dysentery.
49. *Ficus semicordata* Buch-Ham ex J.E.Smith.
Family: Moraceae; Vernacular name: Khanau, English common name: Drooping fig.
Parts used: Bark and fruit.

- Uses: The bark effectively treats peptic ulcers and gastric problems, and the ripe fruits are useful for treating constipation.
50. *Foeniculum vulgare* Mill.
Family: Umbelliferae; Vernacular name: Saunp Jira, English common name: Fennel.
Parts used: Seed
Uses: Boiled seeds with sugar are useful to treat intestinal troubles, diarrhea, and dysentery.
51. *Hibiscus rosa-sinensis* Linn.
Family: Malvaceae; Vernacular name: Barmasephul, English common name: Shoe flower.
Parts used: Leaf and flower.
Uses: The leaf and the flower are used for piles, diarrhea, and dysentery.
52. *Imperata cylindrical* (L.) Beauv.
Family: Poaceae; Vernacular name: Siru, English common name: Thatch grass.
Parts used: Root
Uses: The root juice is given against diarrhea, dysentery, indigestion, and gastric troubles.
53. *Justicia adhatoda* Linn.
Family: Acanthaceae; Vernacular name: Asuro, English common name: Malabar nut.
Parts used: Root and leaf
Uses: The root extract is given for piles and leaf juice is for diarrhea and dysentery.
54. *Lindera neesiana* (Nees) Kurtz.
Family: Lauraceae; Vernacular name: Siltimur, English common name: Lindera seeds.
Parts used: Fruits
Uses: The fruits are useful to treat stomach trouble.
55. *Mangifera indica* Linn.
Family: Anacardiaceae; Vernacular name: Amp, English common name: Mango.
Parts used: Bark and Fruit.
Uses: The bark is taken against indigestion, diarrhea, and dysentery. The fruits are useful as an appetizer and useful for flatulence, peptic ulcer, intestinal spasm, biliousness, and constipation.
56. *Mallotus philippensis* (Lam.) Mull.Arg.
Family: Euphorbiaceae; Vernacular name: Royani, English common name: Kamal tree.

Parts used: Bark

Uses: The bark juice is useful in diarrhea, dysentery, and indigestion.

57. *Malvaviscus arboreus* Linn.

Family: Malvaceae; Vernacular name: Khursani Phool, English common name: Wax mallow.

Parts used: Flowers.

Uses: Boiled flowers with sugar are effective in chronic diarrhea and dysentery.

58. *Mentha arvensis* Linn.

Family: Lamiaceae; Vernacular name: Pudina, English common name: Mint.

Parts used: Leaf

Uses: The leaf juice is taken against nausea, vomiting, and bloody dysentery.

59. *Michelia champaca* Linn.

Family: Magnoliaceae; Vernacular name: Champ, English common name: Golden Champa.

Parts used: Flower and fruits

Uses: The flower and fruits are taken for the treatment of abdominal problems and dyspepsia.

60. *Mimosa pudica* Linn.

Family: Fabaceae; Vernacular name: Lajjawati jhar, English common name: Touch me not.

Parts used: The whole plant

Uses: The plant juice is used against diarrhea and dysentery.

61. *Mirabilis jalapa* Linn.

Family: Nyctaginaceae; Vernacular name: Malati, English common name: 4'0' clock plant.

Parts used: Root.

Uses: The root juice is used to relieve ulcers, gastritis, and stomachache.

62. *Musa paradisiaca* Linn.

Family: Musaceae; Vernacular name: Kera, English common name: Banana.

Parts used: Fruits.

Uses: Boiled unripe fruits are used in case of diarrhea and dysentery.

63. *Morus alba* Linn.

Family: Moraceae; Vernacular name: Kyun Kaphal, English common name: Mulberry.

- Parts used: Fruits.
 Uses: The fruit is useful in diarrhea, dysentery, and constipation.
64. *Myrica esculenta* Buch-Ham. ex D. Don.
 Family: Myricaceae; Vernacular name: Kaphal, English common name: Box Myrtle.
 Parts used: Bark.
 Uses: The bark juice is useful to cure cholera, diarrhea, and dysentery.
65. *Nelumbium nucifera* Gaertn.
 Family: Nymphaeaceae; Vernacular name: Kamal, English common name: Lotus.
 Parts used: Root, seeds, and leaf.
 Uses: The root is useful in dyspepsia, piles, biliousness, diarrhea, and dysentery. Tender leaves are used to cure cholera, diarrhea, mild dysentery, and piles. Similarly, seeds are beneficial for diarrhea, dysentery, and vomiting.
66. *Nephrolepis cordifolia* (L.) K. Presl.
 Family: Nephrolepidaceae; Vernacular name: Pani amala, English common name: Sword fern.
 Parts used: Root tuber.
 Uses: Root tubers are useful against diarrhea and dysentery.
67. *Ocimum basilicum* Linn.
 Family: Lamiaceae; Vernacular name: Babari, English common name: Sweet basil.
 Parts used: Leaves and seeds.
 Uses: The leaves are used as anthelmintic and stomachic. The seeds are given in diarrhea, constipation, chronic dysentery, and piles.
68. *Ocimum tenuiflorum* Linn.
 Family: Lamiaceae; Vernacular name: Tulsi, English common name: Holy basil.
 Parts used: The whole plant and leaves,
 Uses: The plant and leaves juice is taken for diarrhea, nausea, and dysentery.
69. *Oroxylum indicum* (L.) Vent.
 Family: Bignoniaceae; Vernacular name: Tatelo, English common name: Indian trumpet flower.
 Parts used: Root bark and tender fruits.
 Uses: The root-bark is useful in the treatment of biliousness, diarrhea, dysentery, and as anthelmintic. Tender fruits are used as digestive and appetizers and are useful to cure constipation, stomachache, diarrhea, and dysentery.

70. *Oxalis corniculata* Linn.
Family: Oxalidaceae; Vernacular name: Chari amilo, English common name: Wood sorrel.
Parts used: The whole plant.
Uses: The plant juice is effective in biliousness, constipation, dyspepsia, peptic ulcer, piles, vomiting, stomachache, hemorrhoids, diarrhea, and dysentery.
71. *Phaseolus radiates* Linn.
Family: Fabaceae; Vernacular name: Mas, English common name: Indian senna.
Parts used: Seeds.
Uses: The seeds are anti-colic, stomachic, and used in constipation and piles.
72. *Phyllanthus emblica* Linn.
Family: Euphorbiaceae; Vernacular name: Amala, English common name: Emblic myrobalan.
Parts used: Bark, leaves, and fruits.
Uses: The bark juice is effective for constipation and amebic dysentery. Leaf juice is effective in constipation. The fruits show wide effects and are useful to treat diarrhea, dysentery, dyspepsia, gastric troubles, vomiting, and intestinal spasm.
73. *Phyllanthus urinaria* Linn.
Family: Euphorbiaceae; Vernacular name: Bhuinamala, English common name: Tamalika.
Parts Used: Leaves.
Uses: The leaf juice is effective to cure diarrhea and dysentery.
74. *Pinus roxburghii* Sargent.
Family: Pinaceae; Vernacular name: Sallo, English common name: Pine
Parts used: Resin.
Uses: Small amount of resin is useful to treat gastric troubles.
75. *Polygonum molle* D.Don.
Family: Polygonaceae; Vernacular name: Thotne, English common name: Knotgrass.
Parts used: Young shoot.
Uses: The young shoot is taken to treat diarrhea and dysentery.
76. *Piper longum* Linn.
Family: Piperaceae; Vernacular name: Pipla, English common name: Long pepper.
Parts used: Fruits.

- Uses: The fruits are useful to cure indigestion, dyspepsia, piles, vomiting, and stomachache.
77. *Psidium guajava* Linn.
 Family: Myrtaceae; Vernacular name: Amba, English common name: Guava.
 Parts used: Root, bud, and fruit.
 Uses: The root bark is taken to cure diarrhea. Juice of the young bud is effective to treat diarrhea, dysentery, and abdominal pain. Similarly, fruits are useful in constipation, abdominal pain, diarrhea, and dysentery.
78. *Punica granatum* Linn.
 Family: Punicaceae; Vernacular name: Anar, English common name: Pomegranate.
 Parts used: Rind of the fruit.
 Uses: Juice of the rind is taken for diarrhea and dysentery.
79. *Rhus javanica* Linn.
 Family: Anacardiaceae; Vernacular name: Bhakimlo, English common name: Sumac.
 Parts used: Fruits.
 Uses: Decoction of the fruits is effective to treat stomach problems, diarrhea, and dysentery.
80. *Rhus parviflora* Roxb.
 Family: Anacardiaceae; Vernacular name: Satibayar, English common name: Sumac.
 Parts used: Fruits.
 Uses: Decoction of the fruits is useful to cure dysentery.
81. *Reinwardtia indica* Dum.
 Family: Linaceae; Vernacular name: Pyauli, English common name: Yellow flax.
 Parts used: Root.
 Uses: The root juice is effective to cure indigestion.
82. *Ricinus communis* Linn.
 Family: Euphorbiaceae; Vernacular name: Adir, English common name: Castor.
 Parts used: Root.
 Uses: The root juice is useful in diarrhea and dysentery.
83. *Rubus ellipticus* J.E.Smith.
 Family: Rosaceae; Vernacular name: Ainselu, English common name: Raspberry.
 Parts used: Root.
 Uses: The root juice is effective in diarrhea and dysentery.

84. *Sapindus mukorossi* Gaertn.
Family: Sapindaceae; Vernacular name: Rittha, English common name: Soapnut tree.
Parts used: Fruits.
Uses: The fruits are useful as anthelmintic and used to cure diarrhea and indigestion.
85. *Schima wallichii* (DC) Korth.
Family: Theaceae; Vernacular name: Chilaune, English common name: Needle wood.
Parts used: Bark.
Uses: The bark is useful as anthelmintic and used in stomach pain.
86. *Shorea robusta* Gaertn.F.
Family: Dipterocarpaceae; Vernacular name: Sal, English common name: Sal tree.
Parts used: Root, bark, and seeds.
Uses: The root and bark juice are useful to treat diarrhea and dysentery. Seed paste is also taken to cure diarrhea and dysentery.
87. *Solanum nigrum* Linn.
Family: Solanaceae; Vernacular name: Kaligedi/ Jangali bihi, English common name: Black nightshade.
Parts used: The whole plant.
Uses: The plant juice is taken for digestive disorders and dysentery. Ripe fruits are useful to cure constipation.
88. *Swertia chirata* (Roxb ex Fleming) H.Karst.
Family: Gentianaceae; Vernacular name: Chiraito, English common name: Chiraita.
Parts used: The whole plant.
Uses: The plant juice is used for abdominal pain.
89. *Syzygium cumini* (L.) Skeels.
Family: Myrtaceae; Vernacular name: Jamun, English common name: Blackberry.
Parts used: Bark, fruits, and seeds.
Uses: The bark juice is useful in diarrhea and dysentery. The fruits are taken for constipation and indigestion. The seed powder is used to cure diarrhea and dysentery.
90. *Tamarindus indica* Linn.
Family: Fabaceae; Vernacular name: Emili, English common name: Tamarind.
Parts used: Fruits.
Uses: The fruit is useful for digestion and used in indigestion, bile problems, and constipation.

91. *Terminalia bellirica* (Gaertn.) Roxb.
Family: Combretaceae; Vernacular name: Barro, English common name: Belleric myrobalan.
Parts used: Fruits.
Uses: The fruits are anthelmintic and also useful in biliousness, constipation, diarrhea, dysentery, dyspepsia, vomiting, and indigestion.
92. *Terminalia chebula* Retz.
Family: Combretaceae; Vernacular name: Harro, English common name: Chebulic myrobalan.
Parts used: fruits.
Uses: The fruits are used to treat constipation, indigestion, vomiting, chronic diarrhea, dysentery, flatulence, piles, intestinal worms, ulcers, and vomiting.
93. *Tinospora sinensis* (Lour.) Merr.
Family: Menispermaceae; Vernacular name: Gurjo, English common name: Gulancha Tinospora.
Parts used: The whole plant.
Uses: the plant juice is useful in indigestion, biliousness, dyspepsia, piles, chronic diarrhea, and dysentery.
94. *Toona ciliata* M. Roemer.
Family: Meliaceae; Vernacular name: Tooni, English common name: Red cedar.
Parts used: Bark.
Uses: The bark juice is useful to cure diarrhea and dysentery.
95. *Trapa bispinosa* Roxb.
Family: Trapaceae; Vernacular name: Simalkande, English common name: Water chestnut.
Parts used: Fruits.
Uses: Spiny fruits contain a white fleshy mass which is useful to cure biliousness and diarrhea.
96. *Urtica dioica* Linn.
Family: Urticaceae; Vernacular name: Shisnu, English common name: Nettle.
Parts used: Root.
Uses: The root juice is effective for removing intestinal worms and stomach disorders.
97. *Vitis vinifera* Linn.

Family: Vitaceae; Vernacular name: Dakh, English common name: Wild grape.

Parts used: fruits.

Uses: The fruits are useful to cure diarrhea, dyspepsia, and indigestion.

98. *Woodfordia fruticosa* (L.) Kurz.

Family: Lythraceae; Vernacular name: NA, English common name: Fire-flame bush.

Parts used: Bark and flowers.

Uses: The bark juice is used against gastric troubles and bloody stool. Boiled flowers are useful to treat indigestion.

99. *Zanthoxylum armatum* Dc.

Family: Rutaceae; Vernacular name: Timmur, English common name: Prickly ash.

Parts used: Fruits.

Uses: The fruits are anthelmintic and useful in indigestion, abdominal pain, cholera, diarrhea, dysentery, flatulence, dyspepsia, and gastritis.

100. *Zingiber officinale* Rosc.

Family: Zingiberaceae; Vernacular name: Aduwa, English common name: Ginger.

Parts used: Rhizome.

Uses: Rhizome is very useful in the treatment of indigestion and constipation.

101. *Ziziphus mauritiana* Lam.

Family: Rhamnaceae; Vernacular name: Bayar, English common name: Indian plum.

Parts used: Root, bark, leaf, and fruits.

Uses: The root paste is used in vomiting and dysentery. The bark juice is useful in diarrhea and

Dysentery. The leaves are used to cure diarrhea. The ripe fruits are used in stomach problems,

Indigestion, and constipation.

CONCLUSION

Medicinal plants and their uses against gastrointestinal disorders are original works from the Pokhara Valley. These plants are used to treat more than 18 different types of GI problems. The study also shows a few new plants from this area for effective curing of GI problems. There are 20 plants that have been used against GI troubles and were not observed and reported earlier. Such plants are *Bryophyllum pinnatum*, *Butea monosperma*, *Capsicum frutescence*,

Cassia fistula, Celtis australis, Crataeva religiosa, Dalbergia sisso, Erythrina variegata, Ficus lacor, Foeniculum vulgare, Lindera neesiana, Malvaviscua arboreus, Michelia champaca, Nelumbium nucifera, Phaseolus radiatus, Rhus javanica, Schima wallichii, Tamarindus indica, Trapa bispinosa, and Vitis vinifera.

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