Our Nature
Journal homepage: http://nepjol.info/index.php/ON
ISSN: 1991-2951 (Print)
ISSN: 2091-2781 (Online)

Ethnomedicinal Knowledge of Medicinal Plants and Animals Among the Tharu Community of Kohalpur Municipality, Banke, Nepal

Sumitra Mahat[1], Ashok Dhakal[2], Gyanu Thapa Magar[3], Dipak Gupta[4], Ruby Srivastava[5], Amarnath Prasad[1], Ankit Kumar Singh[2,*]

1Department of Zoology, Mahendra Multiple Campus Nepalgunj Tribhuvan University Nepal
2Central Department of Zoology, Tribhuvan University Kirtipur Kathmandu, Nepal
3Department of Botany, Amrit Campus Tribhuvan Universit, Kathmandu,y Nepal
4Department of Zoology, Amrit Campus Tribhuvan Universit, Kathamandu, Nepal
5Techno Institute of Higher Studies, University of Lucknow, India
**Email: akssinghankit1@gmail.com*

Abstract
Tharu is one of the indigenous tribes, living in harmony with nature along the Terai region of Nepal. They are well known for the indigenous knowledge and traditional practices to utilize local resources for their livelihood and health care. This survey was carried out to document key knowledge them, related to medicinal uses of biological products in Kohalpur, Banke, Nepal. The survey was designed with semi structured questionnaire in addition to snowball sampling method for the selection of respondents. A total of 80 informants were interviewed, including 13 local healers (Guruwas). Altogether 26 plant species belonging to 22 families, and 14 animal species under 10 families were recorded for the treatment of 32 different ailments. Plants were from families Lythraceae, Myrtaceae, Rutaceae, and Zingiberaceae; while animals were from Bovidae, and Phasianidae. Plant species were mostly herb, while mammalian products were widely used among animals. Commonly used plant parts were fruits, leaves, and seeds, whereas whole-body meat among animals. Plant ingredients were mostly consumed raw while cooked animal products highly preferred than raw. Regarding application mode, both plant and animal products had common oral application. The highest frequency of citation was found for plant species *Kalanchoe pinnata* (FC = 88.75%) and animal species *Bellamya bengalensis* (FC = 96.25%) with coldness (FC = 90%) as most common ailment. Common but underestimated folk knowledge on these natural resources may have significant future contribution to pharmacognosy and health care system.

Keywords: Traditional knowledge, Banke, Nepal, Medicinal plants

DOI: https://doi.org/10.3126/on.v24i1.97413
Manuscript details: Received: 20.05.2026 / Accepted: 11.07.2026
Citation: Mahat, S., Dhakal, A., Magar, G. T., Gupta, D., Srivastava, R., Prasad, A., & Singh, A. K. (2026). Ethnomedicinal knowledge of medicinal plants and animals among the Tharu community of Kohalpur Municipality, Banke, Nepal. *Our Nature*, *24*(1): 96-109. https://doi.org/10.3126/on.v24i1.97413

Introduction

Nepal is well known for its cultural diversity, unique topography, and abundant biological resources. The country is home to a wide array of ethnic communities, each preserving unique cultures, traditions, and indigenous knowledge systems (Bista, 1987). Ethnic communities in Nepal maintain a close relationship with nature, utilizing plants and animals in unique ways, particularly for medicinal purposes. Approximately 87% of rural residents still rely on natural resources for healthcare (CBS, 2012). Among them, Tharu community represent one of the major indigenous groups, predominantly inhabiting Terai and inner Terai regions across more than 20 districts of Nepal (Thapa, 2020). The Government of Nepal officially recognized Tharu as the earliest settlers of the Terai (Meyer & Deuel, 1998) with about 6.8% of the national population (NPHC, 2021). They are rich in culture, traditional customs, folklore, rituals, and hold profound understanding of nature to use available resources for medicinal purposes (Chaudhary et al., 2020).

The traditional healers in their community are called "***Guruwas***" who provide treatment for the human ailments, primarily based on plant and animal ingredients. The various plant parts, roots, leaves, bark, fruit and animal by-products, blood, milk, honey, urine, stool, wax, feather and horn are common elements (Chaudhary et al., 2020; Gharti et al., 2024; Khanal et al., 2022). Diverse use practices of such plant, and animal species for medicinal purpose among Tharu community to treat about 100 different ailments were previously reported from different parts of their residential area in eastern and western Nepal (Singh, 2017; Singh et al., 2025; Thapa, 2020; Pangeni et al., 2020; Gharti et al., 2024; Khanal et al., 2022). The documentation of medicinal practices among Tharu community has limited information in comparison to their diverse habitat range and respective indigenous knowledge. At the same time, social transformation and access to modern tools and technology of treatment, these practices are rare in use indicating future threat to the continuation of traditional healing practices (Shrestha, 1985). The traditional healers are ageing, and their expertise is at the risk of being lost, thus this study aims to explore the indigenous knowledge among people of Tharu community in current society.

Materials and Methods

Study area

The study was carried out in Kohalpur Municipality-03, Banke district in Lumbini province of western Nepal (**Figure 1**). It has area of 6.92 Km^2 having 1100 households with total population of 6766, male 3570 and female 3196 (NPHC, 2021). The area has about 2778 Tharu people farming on approximately 300-hectare land and are early settlers of the area. Most people in municipality rely on Agriculture for their economy i.e., 56% of total average income of the ward (NPHC, 2021). It lies along the east-west highway and serves as a growing urban center with both rural and urban settlements. Area has tropical climate, characterized by hot summers, monsoon rainfall, and mild winters. There is limited vegetation area with *Shorea-Dalbergia* forest and almost of the area used for farming, and about 200 households using nearby community forest for their daily needs (NPHC, 2021). These local agricultural products and biodiversity have supported the traditional lifestyle of the Tharu people including their medicinal and cultural practices.

Demography, sampling and interview

The ethno-biological practices among Tharu community were documented through interviews from January 22 to February 20, 2025. Individual interview was recorded from 80 local informants with 48 males and 32 females from people above 50 years old. The elder informants were selected so that possible

maximum information can be recorded and as key informants 13 traditional healers (Guruwas) in the area were interviewed. For the selection of respondents, key informants were identified with the help of ward committee members and further followed the snowball sampling method. The criteria were defined for the inclusion and exclusion of respondent by age group and occupation; age group above 50 years were included and occupation other than housewife, traditional healer, farmer, and educators were excluded.

The interview was followed by semi-structured questionnaire to allow flexibility in answer to obtain maximum detail as possible regarding the use of medicinal plants and animals. Special attention was given to assure informants with proper identification of species, uses, and preparation methods to avoid misconception. Field visit for sample collection and direct observations to witness use and preparation of various medicines from plants and animal raw material were most convincing part of the study. It helped in validating responses given during interviews.

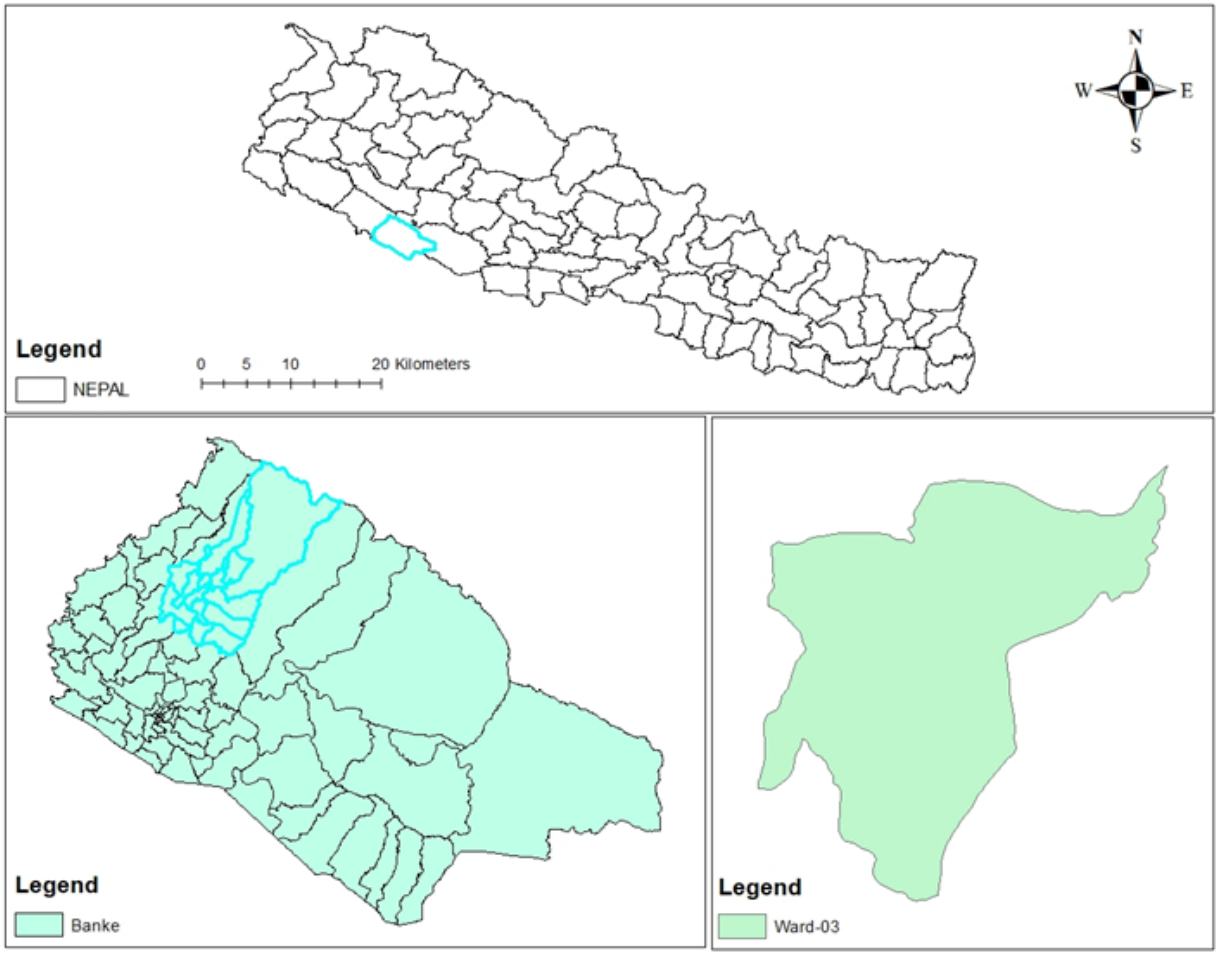

Figure 1. Map of the study area

Ethical consent

Before conducting interviews, Free Prior and Informed Consent (FPIC) was obtained from all participating traditional healers (Guruwas). The objective of study, the use of collected information and participation ethical consent form was written in Nepali and verbally shared with respondents prior to the interview, thereafter, received verbal consent for their time, knowledge sharing and publication of information. Sensitive or sacred knowledge was treated with respect and recorded only

when permitted by the informants. The personal information of the respondent was kept private and maintained privacy of information. Participation was voluntary, and respondents could withdraw at any time. The study adhered to the ethical principles of the International Society of Ethnobiology (ISE) code of ethics. Written consent received from ward no.3 office Kohalpur Rural Municipality (permission no. 1714-081-082).

Data analysis

The interview data collected in paper form and audio recordings were checked, entered and arranged in MS excel 2010. The complete data analysis and graphical displays were prepared for both medicinal plants and animal species with detail.

Results

Taxonomic composition of medicinal species

Diverse ethnic knowledge on medicinal practices was known from *Tharu* community in the study area including both plant and animal species. A total of 26 plant species belonging to 22 families and 14 animal species belonging to 10 families were recorded for the medicinal use among Tharu community of study area (**Annex 1 & 2**). Those species were known to be used for the treatment of 32 different types of ailments including disease, symptoms and health benefits. Common ailments included fever, cough, coldness, dysentery, blood pressure, jaundice, muscle pain, stomachache, gastrointestinal, and appetite loss.

Among 22 families, four families were having two species in each; Lythraceae, Myrtaceae, Rutaceae, and Zingiberaceae while remaining 18 families were having single plant species in each (**Figure 2a**). Similarly, among 10 animal families, family Bovidae had four species, Phasianidae had two species and other animal families had single species in each (**Figure 2b**). Mammal and birds were commonly used in animal group (4 species each) followed by fish (n=3), Molluscs, Crustaceans and insects (n=1).

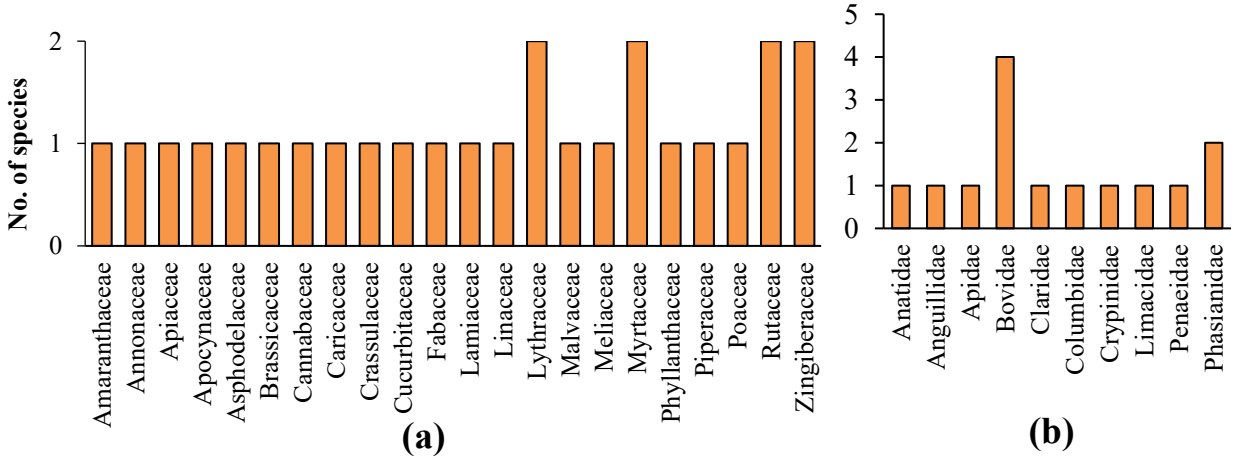

Figure 2. Species richness in (a) plant families and (b) animal families

Life form of medicinal plants

The medicinal plant species used among Tharu community were in different life forms. Among the 26 medicinal plants reported from the area, most were herbs (n = 11) followed by trees (n = 9), shrub (n = 3), climbers (n = 2), and Grass (n = 1) (**Figure 3**).

Plant parts and animal products used

Different parts of plants were reported to be used for different medicinal applications. Mostly leafy parts of the plant were found to be used for medicine followed by fruits, seeds, and roots. Gum or resin and flower were least commonly used plant parts among the reported

species (**Figure 4a**). Meanwhile, in case of animal species, meat was most common ingredient followed whole body consumption for medicinal purposes. Milk, fat eggs and bone was also reported to be used for medicinal applications. Some of the animal species consumed whole body were slug, eel, and fishes, while meat of hen, duck, turkey, and pigeon was common (**Figure 4b**).

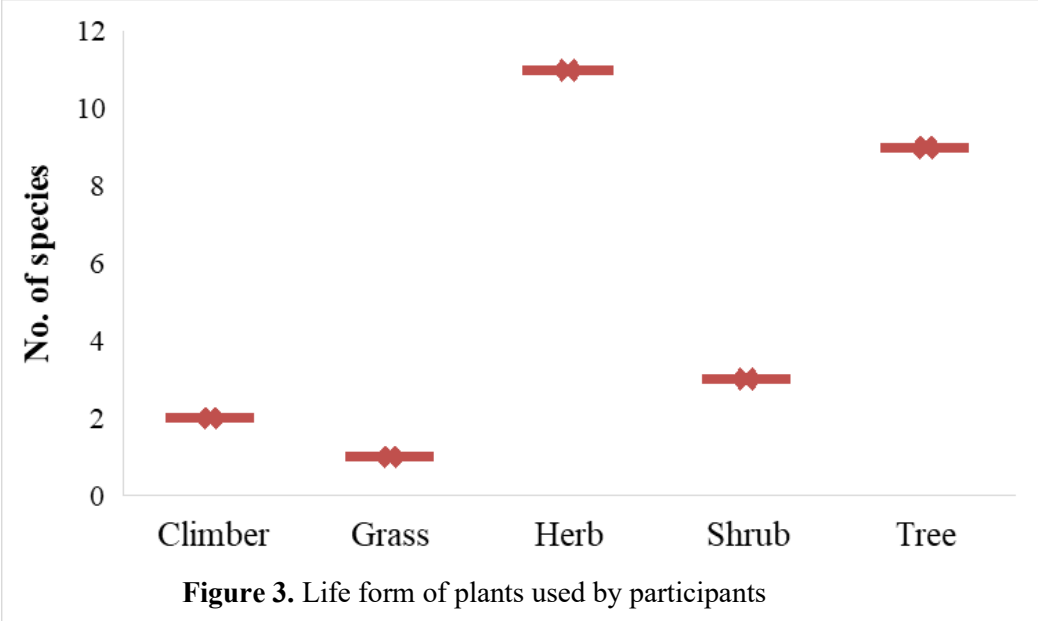

Figure 3. Life form of plants used by participants

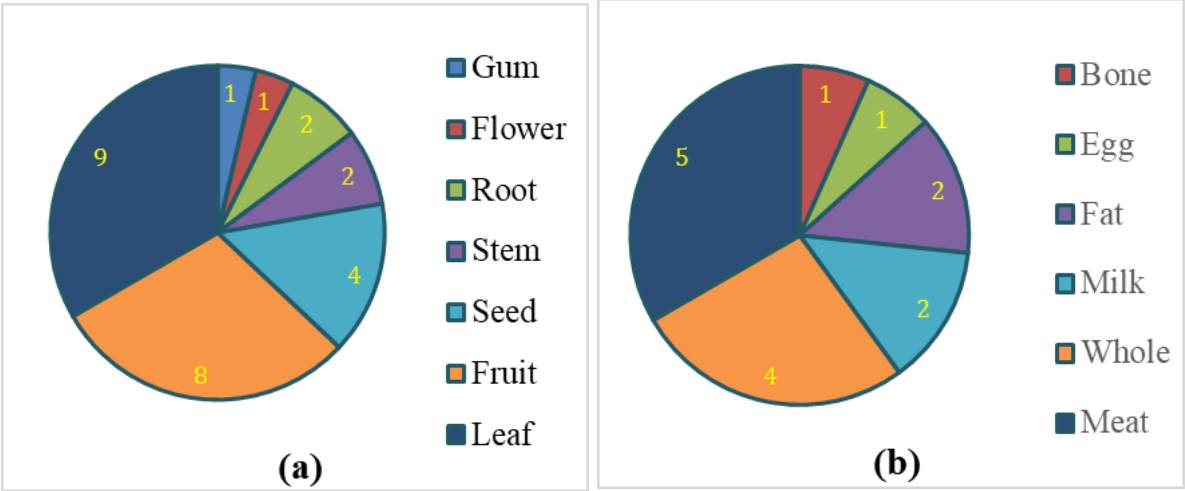

Figure 4. Number of species by their parts used in (a) plants (b) anim***als***

Mode of preparation

The study showed diverse ways of preparation of medicinal remedies among *Tharu* community including boiled tonic/soup, crushed paste, cooked, raw consumption, oil extract, and squeezed for the treatment of different ailments. The most frequently used mode of preparation of herbal remedy was raw consumption (34%) followed by paste application (34%), cooked (19%), and boiled (9%) (**Figure 5a**). However, in case of animal species, the most frequently used mode of preparation was cooked and least consumption raw (10%) (**Figure 5b**). Animal species are known for oral consumption, so the cooked form was the main mode of preparation for ethnomedicine, while the use of plants is both

oral and topical; thus, raw consumption was common.

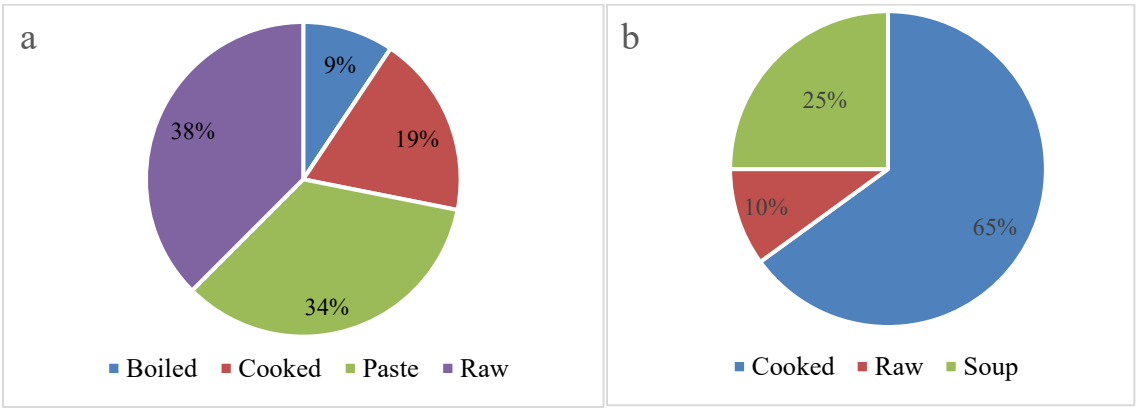

Figure 5. Mode of preparation of medicine from (a) plant and (b) animal

Mode of administration (MoA)

The results revealed that the *Tharu* community mainly relied on oral administration of traditional medicines. Among the plant derived remedies reported 62% were used orally, 23% were consumed through both oral and topical routes, and 15% were applied only topically (**Figure 6a**). Similarly, animal derived medicinal products were mainly administered orally (86%), whereas 14% were used through both oral and topical routes. Notably, no animal- derived remedy was reported to be used exclusively for topical application (**Figure 6b**).

Frequency of Citation (FC)

Among the plant species recorded with medicinal values for the study area, *Azadirachta indica, Curcuma longa* and *Chenopodium album* were most known species as medicinal ingredients, indicated by highest frequency of citation (FC = 90%) (**Annex 1**). Furthermore, mostly cited species followed the sequence *Kalanchoe pinnata* (FC = 88.75%), *Ocimum tenuiflorum* (FC = 87.5%), *Carica papaya* (FC = 87.5%), *Psidium guajava* (FC = 86.25%), *Brassica rapa* (FC = 86.25%), and *Phyllanthus emblica* (FC = 86.25%).

Similarly, common animal species with highest frequency of citation were *Bellamya bengalensis* (FC = 96.25%), followed by *Labeo rohita* (FC = 92.5%), *Clarias batrachus* (FC = 92.5%), and *Bos indicus* (FC = 90%) (**Annex 2**). Regarding mostly cited ailments in the area were coldness (FC = 90%), cough (FC = 88.75%), weakness (FC = 88.75%), common cold (FC = 87.5%), acidity (FC = 85%), and body pain (FC = 85%) (**Table 1**).

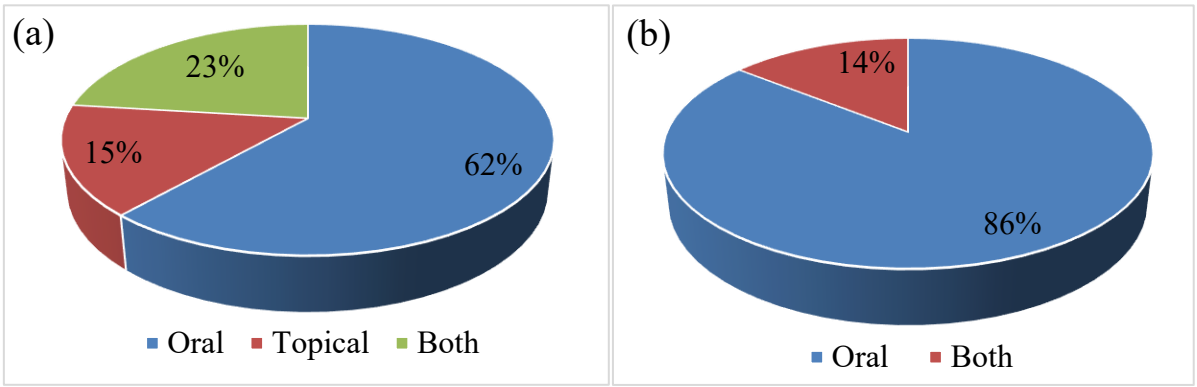

Figure 6. Mode of administration of (a) plant and (b) animal species for medicinal application

Table 1. Ailments and their frequency of citation

Ailments	FC (%)	Ailments	FC (%)
Acidity	85	Hair fall	65
Anaemia	58.75	Hypertension	72.5
Appetite stimulant	73.75	Immunity boost	76.25
Backpain	77.5	Jaundice	57.5
Body Pain	85	Kidney stone	67.5
Burns	56.25	Menstrual cramp	40
Chest Pain	60	Microbial infection	47.5
Cold	90	Muscles pain	55
Common cold	87.5	Protein	70
Constipation	83.75	Protein to mother	40
Cough	88.75	Skin infection	56.25
Diabetes	60	Sprain	60
Diarrhoea	66.25	Stomach-ache	78.75
Gastric problem	80	Vomiting	68.75
Dysentery	52.5	Weakness	88.75
Fever	83.75	Wound	81.25

Discussion

The present study revealed that the Tharu community of Kohalpur continues to rely heavily on medicinal plants and animals for the treatment of a wide range of ailments. Wide array of plant and animal species documented for the medicinal purpose indicates breadth of traditional knowledge still maintained within the community. The predominance of medicinal plants compared to animal species is consistent with broader ethnobotanical studies across Nepal, which report that plant-based remedies form the core of indigenous medicine due to their availability, accessibility, and long-standing cultural acceptance (Khanal et al., 2022; Singh, 2017; Magar & Singh, 2026).

The findings indicated that herbs were the most used life forms (n = 11), followed by trees and shrubs. This reliance on herbs is comparable to the results of (Alamgair & Alamgair, 2017), who emphasized that herbaceous species are often cultivated around households, making them more readily accessible for daily use. Similar trends have been observed among the Kochila Tharu (Singh, 2017) and the Kathariya Tharu of Kailali (Khanal et al., 2022), where herbs contributed most medicinal plants employed. The high representation of families such as Lythraceae, Myrtaceae, Rutaceae, and Zingiberaceae in this study is consistent with their frequent ethnomedicinal use across South Asia, where these families are known for their diverse phytochemical properties (O'Neill & Rana, 2016).

Leaves were the most used plant parts, followed by fruits, seeds, and roots. This preference may be attributed to their easier availability and higher concentration of bioactive compounds (Ambu et al., 2020). Comparable findings have been reported in other ethnomedicinal studies in Nepal, where leaves dominate as the most frequently cited plant parts for preparing remedies (Pangeni et al., 2020; Singh et al., 2025). In contrast, flowers were rarely used, likely reflecting both

their seasonal availability and the limited traditional knowledge on their medicinal efficacy. Animal-based remedies also played a significant role, particularly products such as milk, ghee, meat, eggs, and honey. These findings agree with Botelho (2016) and Tynsong (2021), who noted the importance of animal-derived substances in traditional medicine as both nutritional supplements and therapeutic agents. The frequent use of whole-body preparations, such as eel and slugs, for ailments like chest pain and weakness reflects deep-rooted indigenous practices, like those documented among the Tharu of Banke and Bardiya, where goat meat and eel were reported as therapeutic foods (Thapa, 2020). The findings showed multiple remedied to use a single for different ailments, including both raw and cooked remedies relying on property of compound targeted to be extracted for the application. Plant-based remedies were most frequently administered in raw or paste form, while animal products were predominantly cooked, either as meat or soup. These findings align with (Ambu et al., 2020), who emphasized the oral and topical versatility of plant remedies, and (Assefa et al., 2025), who reported that animal-based remedies are typically administered through cooked preparations due to cultural familiarity with their consumption.

The results illustrated that more use of herbs for the treatment of ailments might be cultivation of herbaceous crops in study area and more aware with herbs than others (Alamgair & Alamgair, 2017). It was found that single species was used to treat more than one ailment and diseases and the highest number of plants were used for jaundice, cough & cold. In case of animal species, they treated 14 different types of ailments such as common colds, immunity boost, protein source, fever, anemia, skin infection etc.

Uses of species for the treatment of different ailments showed that single species can be used for multiple diseases and symptoms. Every species carries their specific property, meanwhile parts of plant and animal body accumulate different concentration of varying chemical constituents that meet requirement of different ailments, such that single species and their parts can be used for varying treatments. Multiple use of single species has also been reported previously from other indigenous community of West Nepal (Magar & Singh, 2026).

As indicated by frequency of citation for species and ailment, particularly few species scored highest frequency of citation while some hold lowest citation of use. Relying on frequency of citation, most commonly cited plant species used for medicinal purposes were *Azadirachta indica, Curcuma longa* and *Chenopodium album*, which are highly common and easily available kitchen ingredients. First aid and early treatment always refer to the use of first available resources, thus kitchen ingredients, being most common for human ailments, is obvious. Similarly, among animal species, *Bellamya bengalensis*, *Labeo rohita*, *Clarias batrachus*, and *Bos indicus* were commonly mentioned species with higest frequency of citation. These common domesticated and farming based products more common in *Tharu* cuisine and abundantly available in the local market (Vishwokarma, 2024). The availability, and preference to these products in traditional cuisine helped to explore medicinal value of the species as well continuation to their traditional norms. Furthermore, highest frequency of citation for ailments were respiratory disorders (cold and cough), digestive problems, jaundice, and high blood pressure. These results are consistent with Gharti et al., (2024) and Singh (2017), who found that digestive and respiratory ailments were the leading categories addressed through ethnomedicine in the Tharu community of Banke and Bara districts. Similarly, Pangeni et al., (2020) reported that gastrointestinal and dermatological disorders

were among the most frequently treated conditions in Rupandehi and Nawalparasi. Such convergence across multiple studies highlights the importance of ethnomedicine in addressing prevalent health challenges in rural Nepal, where access to modern health services may be limited. The mode of preparation of remedies in this study further reflects community adaptation to locally available resources.

Overall, the results demonstrate that the Tharu community retains a rich body of medico-ethnobiological knowledge, with plant remedies dominating over animal-based practices but both playing complementary roles in health care. However, the reliance on a few species for multiple ailments also raises concerns about sustainability and potential overexploitation of key taxa. As modernization and biomedical health care expands, there is a pressing need to document, validate, and conserve this traditional knowledge before it is lost mainly in younger generation (Singh et. al. 2025). Integrating validated indigenous practices with modern health systems may enhance culturally appropriate primary health care in Nepal while also contributing to biodiversity conservation.

Conclusion

This study highlights the rich ethnomedicinal knowledge of the Tharu community in Kohalpur, Banke. The predominance of herbal remedies, particularly those derived from leaves, fruits, and seeds, underscores the accessibility and cultural importance of plant-based treatments, while animal products such as meat, milk, ghee, and honey complement traditional health care practices. The frequent use of remedies against digestive, respiratory, and dermatological disorders reflects both the prevalence of these health issues in rural Nepal and the adaptability of indigenous medical systems in addressing them. The findings are consistent with ethnomedicinal studies conducted among other Tharu groups and indigenous communities in Nepal, suggesting both cultural continuity and regional adaptation in traditional healing practices. However, the dependence on a relatively small pool of species for multiple ailments highlights the need for sustainable use and conservation of key medicinal taxa. At the same time, modernization and the gradual shift towards biomedical health services are placing this traditional knowledge system at risk, particularly as younger generations show declining interest in learning from traditional healers. Systematic documentation, scientific validation, and integration of effective remedies into community-based health programs are urgently needed to ensure the preservation of this knowledge. Such efforts would not only strengthen culturally relevant primary health care but also contribute to biodiversity conservation and sustainable resource management.

Acknowledgements

Authors would like to express their gratitude to local respondents who participated in this study. We are also thankful to ward no.3 president for ethical approval.

Conflict of interest:

The authors declare that they have no conflict of interest.

References

Acharya, R., & Acharya, K. (2010). Ethnobotanical study of medicinal plants used by Tharu community of Parroha VDC, Rupandehi District, Nepal. *Scientific World*, 7. https://doi.org/10.3126/sw.v7i7.3832

Alamgair, M., & Alamgair, A. (2017). Traditional herbal medicines in South Asia: Diversity, use, and conservation. *Journal of Ethnopharmacology*, *197*, 313–326. https://doi.org/10.1016/j.jep.2017.01.038

Ambu, G., Chaudhary, R., Mariotti, M., & Cornara, L. (2020). Traditional Uses of Medicinal Plants by Ethnic People in the

Kavrepalanchok District, Central Nepal. *Plants*, *9,* 759. https://doi.org/10.3390/plants9060759

Assefa, A., Belay, G., & Tsegaye, A. (2025). Ethnozoological practices and animal-based traditional medicine in Africa. *Journal of Ethnobiology and Ethnomedicine, 21*(2), 1–14.

Bhatt, M., & Kunwar, R. (2020). Distribution pattern and ethnomedicinal uses of plants in Kanchanpur district, Far-Western Nepal. *Ethnobotany Research and Applications*, *20*. https://doi.org/10.32859/era.20.14.1-21

Bhattarai, S., Chaudhary, R. P., Quave, C. L., & Taylor, R. S. (2010). The use of medicinal plants in the trans-himalayan arid zone of Mustang district, Nepal. *Journal of Ethnobiology and Ethnomedicine*, *6*(1), 14. https://doi.org/10.1186/1746-4269-6-14

Bista, D. B. (1987). Nepal School of Sociology/Anthropology. *Nepal Journal*, *2*(3), 6-10. https://doi.org/10.3126/opsa.v1i0.1040

Botelho, M. A. (2016). Honey in traditional and modern medicine. *Journal of Apitherapy, 1*(1), 1–5. https://doi.org/10.5455/ja.2016.01.001

Central Bureau of Statistics (CBS). (2012). *National population and housing census 2011 (National report)*. Government of Nepal, National Planning Commission Secretariat.

Chi, C. (1994). Integrating traditional medicine into modern health care systems: examining the role of Chinese medicine in Taiwan. *Social science & medicine*, *39*(3), 307-321. https://doi.org/10.1016/0277-9536(94)90127-9

Gharti, S. D., Nag, P., Magar, G. T., & Singh, A. K. (2024). Ethnomedicinal Plants Used in Tharu Community, A Case Study of Rapti Sonari, Western Nepal: Ethnomedicinal Plants Used in Tharu Community. *PhytoTalks*, *1*(2), 143–156. https://doi.org/10.21276/pt.2024.1.2.8

Joshi, N., Ghorbani, A., Siwakoti, M., & Kehlenbeck, K. (2020). Utilization pattern and indigenous knowledge of wild medicinal plants among three ethnic groups in Makawanpur district, Central Nepal. *Journal of Ethnopharmacology*, *262*, 113219. https://doi.org/10.1016/j.jep.2020.113219

Khanal, C., Neupane, S., & Magar, M. S. T. (2022). Ethnobotany of Medicinal Plants Used by Kathariya (Tharu) Community in Kailali District, Nepal. *Journal of Plant Resources*, *20*(2), 190-199. https://doi.org/10.3126/bdpr.v20i2.57038

Magar, G. T., & Singh, A. K. (2026). Ethnomedicinal uses of biological products by indigenous inhabitants in Southern Banke, West Nepal. *Ceylon Journal of Science*, *55*(1). https://doi.org/10.4038/cjs.v55i1.9062

National Population and Housing Census (NPHC). (2021). National report. National Statistics Office.

O'Neill, A. R., & Rana, S. K. (2016). An ethnobotanical analysis of parasitic plants (Parijibi) in the Nepal Himalaya. *Journal of Ethnobiology and Ethnomedicine*, *12*(1), 14. https://doi.org/10.1186/s13002-016-0086-y

Pangeni, B., Bhattarai, S., Paudyal, H., & Chaudhary, R. P. (2020). Ethnobotanical Study of Magar Ethnic Community of Palpa District of Nepal. *Ethnobotany Research and Applications*, *20*. https://doi.org/10.32859/era.20.44.1-17

Poudel, M., & Singh, N. B. (2016). Teaching (with) Medical Ethnobiology: Indigenous Knowledge System Found in Raji People of Western Nepal. *International Journal of Multidisciplinary Perspectives in Higher Education*, *1*(1), 47-62. http://www.jimphe.com

Rokaya, M., Münzbergová, Z., Shrestha, M., & Timsina, B. (2012). Distribution

patterns of medicinal plants along an elevational gradient in central Himalaya, Nepal. *Journal of Mountain Science*, *9***,** 201–213. https://doi.org/10.1007/s11629-012-2144-9

Rokaya, M., Uprety, Y., Poudel, R., Timsina, B., Münzbergová, Z., Asselin, H., Tiwari, A., Shyam, S., & Sigdel, S. (2014). Traditional uses of medicinal plants in gastrointestinal disorders in Nepal. *Journal of Ethnopharmacology*, *158,* 221–229. https://doi.org/10.1016/j.jep.2014.10.014

Shrestha, N., Shrestha, S., Koju, L., Shrestha, K. K., & Wang, Z. (2016). Medicinal plant diversity and traditional healing practices in eastern Nepal. *Journal of Ethnopharmacology*, *192*, 292–301. https://doi.org/10.1016/j.jep.2016.07.067

Singh, A. K., Prasad, A., Nag, P., Mahatara, R. S., Chokhal, K., Shah, Y., Chaudhary, B., & Magar, G. T. (2025). Knowledge on Ethnomedicinal Practices among School Youths in Banke, Nepal. *Contemporary Research: An Interdisciplinary Academic Journal*, *8*(1), 20-37. https://doi.org/10.3126/craiaj.v8i1.79868

Singh, S. (2017). Ethnomedicines used by Kochila Tharu tribes living near the Bara district of Nepal. *World Journal of Pharmaceutical Research*, *6*(14), 1267-1283. https://doi.org/10.20959/wjpr201714-13732

Subedi, B. (2022). Whose Knowledge Counts? A Reflection on the Field Narratives of Indigenous Health Knowledge and Practices. *Dhaulagiri Journal of Sociology and Anthropology*, 59–69. https://doi.org/10.3126/dsaj.v16i01.50947

Thapa, C. B. (2020). Ethnomedicinal Practices by Tharu Ethnic Community in Rupandehi and Nawalparasi Districts, Western Nepal. *Journal of Institute of Science and Technology*, *25*(2), 93–106. https://doi.org/10.3126/jist.v25i2.33745

Tynsong, H. (2021). Ethno-zoological study of animal-based medicine used by traditional healers of North-east India. *Asian Journal of Ethnobiology*.

Vishwokarma, T. B. (2024). Socio-cultural changing pattern of Tharu community. *Shaheed Smriti Journal, 13*(10), 38-45. https://doi.org/10.3126/shaheedsmriti.v13i10.76803

Annex 1: List of plants used and their details

Families	Scientific Name	Common Name	Local Name	Growt Habit	Parts used	Mode of preparation	MoA	Ailment Treated	*F C (%)
Apocynaceae	*Calotro Sgigantea* (L.) W.T. Aiton	Giant milkweed	Madar	Shrub	Gum	Raw	Topical	Sprain	81.25
Asphodelaceae	*Aloe vera* (L.) Burm.f.	Aloe vera	Gheukumari	Herb	Leaves	Gel	Oral, Topical	Burns, Cut, Hypertension	70
Cucurbitaceae	*Momordica charantia* L.	Bitter ground	Karela	Climber	Fruit	Cooked	Oral	Hypertension	42.5
Myrtaceae	*Psidium guajava* L.	Common guava	Amrud	Tree	Leaves	Boiled	Oral	Diarrhoea, Stomach-ache	86.25
Malvaceae	*Hibiscus rosa-sinensis* L.	Hibiscus	Ghantiphool	Shrub	Flower	Boiled, Raw	Oral	Menstrual cramp	55
Myrtaceae	*Syzygium cumini* (L.) Skeels	Java plum	Jamuni	Tree	Fruits	Raw	Oral	Diabetes	70
Fabaceae	*Trigonella Foenum graceum* L.	Fenugreek	Methi	Herb	Seeds, leaves	Boiled, Paste	Oral, Topical	Stomachache, Hair fall	66.25
Meliaceae	*Azadirachta indica* A. Juss.	Indian lilac	Neem	Tree	Leaves, stem	Boiled Squeezed, Raw	Oral, Topical	Wound, Hypertension	90
Lythraceae	*Punica granatum* L.	Pomegranate	Darim	Tree	Seeds,	Squeezed	Oral	Diarrhoea	85
Lamiaceae	*Ocimum tenuiflorum* L.	Holi basil	Tulsi	Herb	Leaves	Squeezed, Boiled	Oral	Fever, Cough Cold	87.5
Zingiberaceae	*Curcuma longa* L.	Turmeric	Hardi	Herb	Root	Boiled, Dried	Oral, Topical	Cuts,Wound, Cough	90
Zingiberaceae	*Zingiber officinale* Roscoe	Ginger	Adrak	Herb	Root	Boiled, Dried	Oral	Cold, Cough	78.75
Caricaceae	*Carica papaya* L.	Papaya	Aand	Tree	Fruit	Raw	Oral	Jaundice	87.5
Apiaceae	*Anethum graveolens* L.	Dill	Soop	Herb	Leaves	Cooked	Oral	Backpain	67.5
Piperaceae	*Piper longum* L.	Long pepper	Pipli	Climber	Fruit	Boiled	Oral	Cough, Cold	60
Cannabiaceae	*Cannabis sativa* L.	Marijuana	Ganja	Herb	Leaves	Raw	Topical, Oral	Appetite Stimulant,	65

								Microbial infection	
Rutaceae	*Citrus limon* (L.) Osbeck	Leamon	Kagati	Tree	Fruit	Raw	Oral	Vomiting Acidity	85
Linaceae	*Linum usitatissimum* L.	Flaxseed	Aarshi	Herb	Seeds	Boiled	Topical	Hair fall	52.5
Crassulaceae	*Kalanchoe Pinnata* (Lam.) Pers.	Air plant	Ajooba	Herb	Leaves	Direct used	Oral	Kidney stone	88.75
Rutaceae	*Aegle Marmelos* (L.) Correa	Wood apple	Bel	Tree	Fruit	Juice	Oral	Gastric Problem	78.75
Brassicaceae	*Brassica rapa* L.	Mustard	Tori	Herb	Seeds	Oil	Topical	Muscle pain	86.25
Lythraceae	*Lawsonia inermis* L.	Henna	Mendi	Shrub	Leaves	Paste	Topical,	Microbial infection	55
Annonaceae	*Annona reticulata* L.	Custard apple	Sarifa	Tree	Fruits,	Raw	Oral	Fever, Digestion	70
Amaranthaceae	*Chenopodium album* L.	Goosefoot	Bethuwa	Herb	leaves	Cooked	Oral	Constipation	90
Phyllanthaceae	*Phyllanthus emblica* L.	Indian gooseberry	Amla	Tree	Fruits	Dried, Boiled	Oral, Topical	Hair fall, Dysentery, stomach-ache	86.25
Poaceae	*Saccharum officinarum* L.	Sugarcane	Khujhi Ganna	Grass	Stem	Squeezed	Oral	Jaundice	70

[Note: MoA- Mode of administration; *FC- Frequency of citation for species**]**

Annex 2: List of animals used and their details

Families	**Scientific name**	**Local name**	**Common name**	**Use part**	**Mode of Preparation**	**MoA**	**Aliment Treated**	***FC (%)**
Bovidae	*Bos indicus*	Gaya, Gaiya	Cow	Milk, Ghee	Cooked	Oral	Body Pain, Immunity	90
Bovidae	*Bubalus bubalis*	Bahisa	Buffalo	Milk, Meat	Cooked, Boiled	Oral	Protein	76.25
Bovidae	*Capra spp.*	Bakhro	Goat	Meat, Bone	Cooked	Oral	Protein	87.5
Bovidae	*Ovis aries*	Bheriya	Sheep	Meat, Whole part	Cooked, Soup	Oral	Protein to post-partum mother	82.5
Phasianidae	*Gallus gallus*	Murgi/	Hen	Meat,	Cooked	Oral	Common cold,	88.75

	domesticus	Murga		Egg			Immunity	
Anatidae	*Anas spp.*	Bakta	Duck	Meat, Egg	Cooked	Oral	Common cold, Immunity	88.75
Phasianidae	*Meleagris gallapavo*	Sutur murga	Turkey	Meat	Cooked	Oral	Boost Immunity	77.5
Columbidae	*Columba liva*	Parewa	Pigeon	Meat	Cooked, Soup	Oral	Cough, Immunity boost	86.25
Viviparidae	*Bellamya bengalensis*	Ghongi	Slug	Whole body	Cooked, Soup	Oral	Weakness, High protein	96.25
Anguillidae	*Annguilla bengalensis*	Bam Machha	Eel	Whole body	Cooked	Oral	Chest pain	80
Palaemonidae	*Macrobrachium lamarrei*	Jhinge Macha	Prawn	Whole body	Cooked	Oral, Topical	Common cold, Immunity boost	87.5
Crypinidae	*Labeo rohita*	Rou, Rui	Rohu	Whole body	Cooked, Soup	Oral	Fever, High Protein	92.5
Claridae	*Clarias batrachus*	Maccha	Mangur	Whole body	Cooked	Oral	Anaemia	92.5
Apidae	*Apis cerana.*	Mauri	Honeybee	Honey, wax	Direct used	Oral, Topical	Cough, Skin infection, Body pain	85

[Note: MoA- Mode of administration; *FC- Frequency of citation for species**]**