

# Traditional medicine, Natural Products

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## Ethnomedicinal Study of Medicinal Plants in Asgede Wereda, Tigray, Ethiopia

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An ethnobotanical study of medicinal plants was conducted in Asgede Wereda, Tigray Regional State, Ethiopia, with the objective of documenting medicinal plants used for treating human ailment and also determining the conservation status of the plants in the study area. Field data was collected from September 2020 to June 2020. The investigation focused on the traditional uses of medicinal plants in the study area. Different ethnobotanical data were gathered from traditional healers and knowledgeable elders in the study area. A total of 258 informants (137 male and 121 female) aged between 18 and 96 years participated in data collection. To determine participants in the data collection, combinations of random and purposive sampling techniques were used. The participants were selected from eight kebeles. Data was collected using semi-structural interviews, observation during guided field walks and group discussions, preference ranking, paired comparison, and direct matrix ranking. Descriptive statistics were used for data analysis. A total of 84 medicinal plants belonging to 27 genera and 38 families were documented in the study area. Fabaceae was the most dominant family (having 12 species), followed by Rutaceae (3 species). A large number of medicinal plants (55 species, or 65.5%), were collected from natural (wild) habitats, while 20 species (23.8%) were collected from home gardens and 9 species (10.7%) were encountered in cultivation. The study showed that leaves (44%) were the dominant parts of plants used, followed by roots (25%) and barks (14.3%). Pounding and crushing were widely used methods of preparing traditional medicine in the study area. It was noted that a large number of medicinal plants were cited as being used in fresh form, but a few were used dry. Concerning the route of administration, 52% were dermal, 29.8% were oral, and 17.8% were others. According to the result of the preference ranking, Zehmeriacabra was the most preferred medicinal plant for Brassicaceae was the most preferred in a paired comparison. Diabetes got the highest informant consensus, and Allium sativum had the highest fidelity level index. Some medicinal plants were more popular than others for treating various diseases. For example, allium sativum and rumex abyssinica were found to be the most popular medicinal plants in the study area. The survey results showed a decrease in the abundance and availability of some medicinal plants. Agricultural expansion, habitat destruction, firewood, charcoal, deforestation, overgrazing, and drought were major threats to medicinal plants. There is an urgent need to conserve and promote sustainable utilization of these medicinal plants. Effective participation of local communities in natural resource management and raising public awareness about the conservation and sustainable use of medicinal plants were recommended as a result of this study.

**Key words:** conservation, indigenous knowledge, plant parts used, route of administration, sustainable

### Biography

Haftom Teshale Gebre is a dedicated researcher and academic at the Department of Geography and Environmental Studies, Adigrat University, Ethiopia. His expertise lies in geographic and environmental research, focusing on sustainable development, climate change, and spatial analysis. With a strong background in environmental studies, he is committed to advancing knowledge in geography and its applications to real-world challenges.