

## Quantitative Ethno-Botanical Analysis and Conservation Issues of Medicinal Flora from Alpine and Sub-Alpine, Hindukush Region of Pakistan

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**Abstract :** It is the first quantitative ethno-botanical analysis and conservation issues of medicinal flora of Alpine and Sub-alpine, Hindikush region of Pakistan. The objective of the study aims to report, compare the uses and highlight the ethno-Botanical significance of medicinal plants for treatment of various diseases. A total of 250 (242 males and 8 females) local informants including 10 Local Traditional Healers were interviewed. Information was collected through semi-structured interviews, analyzed and compared by quantitative ethno-botanical indices such as Jaccard index (JI), Informant Consensus Factor (ICF), use value (UV) and Relative frequency of citation (RFC). Thorough survey indicated that 57 medicinal plants belongs to 43 families were investigated to treat various illnesses. The highest ICF is recorded for digestive system (0.69%), Circulatory system (0.61%), urinary tract system, (0.53%) and respiratory system (0.52%). Used value indicated that, *Achillea millefolium* (UV = 0.68), *Aconitum violaceum* (UV = 0.69), *Valeriana jatamansi* (UV = 0.63), *Berberis lyceum* (UV = 0.65) and are exceedingly medicinal plant species used in the region. In comparison, highest similarity index is recorded in these studies with JI 17.72 followed by 16.41. According to DMR output, *Pinus williciana* ranked first due to multipurpose uses among all species and was found most threatened with higher market value. Unwise used of natural assets pooled with unsuitable harvesting practices have exaggerated pressure on plant species of the research region. The main issues causative to natural variety loss found were over grazing of animals, forest violation, wild animal hunting, fodder, plant collection as medicine, fuel wood, forest fire, and invasive species negatively affect the natural resources. For viable utilization, in situ and ex situ conservation, skillful collecting, and reforestation project may be the resolution. Further wide field management research is required.

**Keywords :** quantitative analysis, conservations issues, medicinal flora, alpine and sub-alpine, Hindukush region

**Conference Title :** ICMAP 2015 : International Conference on Medicinal and Aromatic Plants

**Conference Location :** Penang, Malaysia

**Conference Dates :** December 03-04, 2015