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Study of medicinal plants treating diseases in the province of Taza (northern Morocco) via a quantitative ethnobotanical approach

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Abstract:

The objective of this work is to deepen quantitative knowledge of the use of medicinal plants in the treatment of diseases via an ethnobotanical survey carried out between March and October 2021 in the province of Taza (Morocco). Quantitative ethnobotanical indices are used for the valorization of local phytotherapeutic plants in this area. 91 taxa identified in the province of Taza were statistically valued in relation to the diseases treated. IBM-SPSS-Statistics-25 was used to process the results. Relative Frequency of Citation (RFC), Use Value (UV) and Fidelity Level (FL) were calculated. The taxa of *Salvia officinalis* L. and the family of Lamiaceae are the most used. The highest RFC is those of *Olea europaea* L. subsp. *Europaea*, the highest UV is those of *Salvia officinalis* L. and 15 species present the highest FL. These statistical results reflect the importance of medicinal plants in the treatment of diseases. The results of this ethnobotanical study contribute to the valorization of local medicinal flora and improve knowledge of their phytotherapeutics. These findings may constitute a very important cognitive basis in terms of herbal medicine and will require validation via ethnopharmacological studies, in order to reveal the active molecules in the treatment of various diseases.

Keywords: Ethnobotanical survey; Medicinal plants; Diseases; Ethnobotanical indices; Taza (Morocco).

Introduction and objectives

Phytotherapy occupies a very important place in the treatment of diseases. A large number of patients use medicinal plants (MP) for treatment. These plants are the subject of several scientific researches whose results remain far from being exploited for medical purposes, the use of PM requires good knowledge of this field in order to compensate for the harmful effects of certain toxic plants. With the intention of enriching the field of herbal medicine in the province of Taza located in the North East of Morocco and part of the Fez-Meknes Region, carrying out an ethnobotanical survey is essential. These results obtained, constituting an ethnobotanical wealth on traditional plants in the Province of Taza, need to be validated by other-pharmacological studies.

Methodology

Determination of sociodemographic characteristics

To deepen quantitative knowledge of the use of medicinal plants in the treatment of diseases via an ethnobotanical survey

Methods



- Transversal ethnobotany
- Semi-structured questionnaire
- (Delisle, 1997), African plant Database ...
- IBM SPSS Statistics (Relative Frequency of Citation (RFC), Use Value (UV) and Fidelity Level (FL) was calculated).



Figure 1: Map showing the study area in the Province of Taza

Results

Table 1: Socio-demographic profile of interviewers

Socio-demographic variables		Percentage (%)
Population	Ordinary citizen	87,9
	Herbalist	12,1
Age	21 to 40 years old	21,2
	41 to 60 years old	54,1
	61 to 80 years old	24,7
	81 to 90 years old	1,0
Sex	Male	62,1
	Feminine	37,9

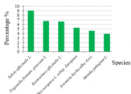


Figure 2: Most used species

Table 2: Species representing the highest relative frequency of citation

Species	RFC
<i>Olea europaea</i> L. subsp. <i>Europaea</i>	0.29
<i>Trigonella foenum-graecum</i> L.	0.23
<i>Salvia officinalis</i> L.	0.23
<i>Origanum compactum</i> Benth	0.13
<i>Rosmarinus officinalis</i> L.	0.12

Table 3: Species representing the highest use values

Species	UV
<i>Salvia officinalis</i> L.	0.60
<i>Trigonella foenum-graecum</i> L.	0.45
<i>Rosmarinus officinalis</i> L.	0.44
<i>Olea europaea</i> L. subsp. <i>Europaea</i>	0.35
<i>Artemisia herba-alba</i> Asso.	0.30

The 91 taxa identified in the province of Taza were statistically valued in relation to the diseases treated. The taxa of *Salvia officinalis* L. and the family of Lamiaceae are the most used. The highest RFC is those of *Olea europaea* L. subsp. *Europaea*, the highest UV is those of L., and 15 species present the highest *Salvia officinalis* FL. These statistical results reflect the importance of medicinal plants in the treatment of diseases.

Conclusion

The results of this ethnobotanical study contribute to the valorization of local medicinal flora and improve knowledge of their phytotherapeutics. These findings may constitute a very important cognitive basis in terms of herbal medicine and will require validation via ethnopharmacological studies, in order to reveal the active molecules in the treatment of various diseases.