



An ethnobotanical study of medicinal plants used for skin diseases by the local people in El Bayadh region, Algeria

Nadia Toumi, Zohra Nouri, Abbas Dellal, Oum Enoune Bendouma, Rachida Benabdallah Benarmas, Fatima Zohra Bekri, Mustapha Mahmoud Dif

Correspondence

Nadia Toumi^{1,2*}, Zohra Nouri¹, Abbas Dellal¹, Oum Enoune Bendouma¹, Rachida Benabdallah Benarmas^{3,4}, Fatima Zohra Bekri¹, Mustapha Mahmoud Dif¹.

¹Department of Ecology, Faculty of Sciences of nature and life, NOUR Bachir University center, El Bayadh 32000, Algeria.

²Faculty of Sciences, Nour Bachir University center, El Bayadh 32000, Algeria.

³Department of Chemical Engineering, Faculty of Chemistry, University of Science and Technology M-B of Oran, Algeria

⁴Laboratory of Functional Eco-Materials and Nanostructures (LEMFN)

*Corresponding Author: n.toumi@cu-elbayadh.dz

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Research

Abstract

Background: Despite Algeria's rich botanical diversity (approximately 1000 medicinal species among 3139 spermatophytes), ethnobotanical documentation of dermatological uses in rural El Bayadh remains limited. This study documents medicinal plants used by traditional herbalists for treating skin diseases in this region.

Methods: structured questionnaires were administered to 50 herbalists. Data on demographics, plant uses, preparation methods, and administration routes were summarized; the frequency citation index was calculated.

Results: Forty-two species from 25 families were recorded for 25 skin diseases. Lamiaceae and Asteraceae were the most represented (11.90% each). Leaves were the most used plant part (25.13%), and oil extraction predominated (38%). Topical administration was most frequent (67%). Reported patient satisfaction was high (89%), often attributed to cost-effectiveness. Several species have not been previously reported for dermatological applications.

Conclusions: This first comprehensive documentation for El Bayadh highlights substantial therapeutic knowledge and underscores the urgent need for documentation and conservation given the concentration of this knowledge among elderly practitioners.

Keywords: Medicinal plants; Ethnobotany; Dermatological diseases; Traditional medicine; Algeria

Background

Traditional and herbal medicines, defined as natural preparations derived from plant organs such as leaves, seeds, flowers, roots and fruits, are widely used for primary healthcare worldwide (World Health Organization 2023). These remedies are delivered as extracts, fresh or dried preparations, powders and polyherbal mixtures (Manzoor *et al.* 2013). Comparative

assessments indicate favorable safety profiles for some taxa relative to synthetic alternatives (Khan *et al.* 2014, Mussarat *et al.* 2014). Many modern therapeutics have botanical precursors or scaffolds (Robbers *et al.* 1996). According to the World Health Organization (2023), traditional medicine is used in 170 countries, with substantial uptake in industrialized settings from 42% to 70% in the United States, Australia, France and Canada, and up to 80% in some African countries.

Algeria exemplifies this reliance, with traditional herbal practices embedded in healthcare and supported by a flora shaped by geography, climate and edaphic diversity (Adouani & Boulaacheb 2022, Miara *et al.* 2019). The national flora includes about 3139 spermatophyte species, of which approximately 1000 are medicinal and 700 are endemic (Bourouaha *et al.* 2025).

In the El Bayadh region, access to dermatological care is limited in rural areas and communities frequently consult herbalists for skin complaints. Skin diseases rank among the most common causes of morbidity (Miara *et al.* 2019). The skin, the body's largest organ, acts as the primary barrier against microbial contamination and ultraviolet radiation.

Although many plants have been evaluated for dermatologic indications (Badgujar *et al.* 2014), few studies have documented ethnomedicinal uses specifically in El Bayadh. This study aimed to document medicinal plants used against skin diseases and to assess the therapeutic potential of natural products in the El Bayadh region of Algeria.

Materials and Methods

Study area

Algeria is the largest country in North Africa, comprising 58 provinces. Its territory is geographically heterogeneous, encompassing coasts, mountains, forests, arid high plains, steppe, and Saharan landscapes. The El Bayadh region, located in western Algeria within the semi-arid zone, extends between 33°40'30" and 33°41'40" N and 01°00'00" and 01°02'00" E (Fig. 1). The region comprises three topographical zones: the high plains of the Atlas Mountains in the north, the Saharan Atlas, and the Saharan platform in the south (Djelaila *et al.* 2022). It hosts a rich diversity of medicinal and aromatic plants and a long tradition of their use among local populations (Alami *et al.* 2022, Dif *et al.* 2022).

Study design and participants

This was a cross-sectional ethnobotanical survey conducted from March 2024 to August 2024 in the El Bayadh region. The sample included 60 practicing herbalists; 50 informants were interviewed (response rate = 83.3%). Participants were recruited using purposive and snowball sampling according to predefined inclusion criteria (at least 2 years of practice, adult, resident in the region) and exclusion criteria (refusal to participate). Prior informed verbal consent was obtained from all participants before each interview; no biological materials were collected or exported.

Data collection

A structured questionnaire was administered, via face-to-face interviews, to 50 of the 60 herbalists practicing in the study area. The questionnaire comprised two sections: the first recorded the herbalists' demographic and professional characteristics (gender, age, academic level, and source of knowledge), and the second documented medicinal plants (local names, plant parts used, medicinal uses, and preparation methods).

Plant identification and verification

Each plant species mentioned by the herbalists was verified and classified into families and genera. Plants were collected and pressed as herbarium specimens, identified by a botanist, and deposited at the Plant Biology Laboratory with corresponding voucher specimen numbers.

Data analysis

The **Frequency of Citation (FC)** for each species was calculated as:

$$FC = (n / N) \times 100$$

where *n* is the number of citations recorded for a given species, and *N* is the total number of plant citations recorded in the survey (*N* = 195). Because each informant could mention more than one plant species, the total number of plant citations exceeded the total number of informants interviewed (50). Higher FC values indicate more frequently cited species. All analyses were performed using Microsoft Excel 2021.

The **Fidelity Level (FL)** was used to assess the percentage of informants who reported the use of a given plant species for the same specific skin disease. It was calculated as:

$$FL = (N_p / N) \times 100$$

where N_p is the number of informants who cited the use of a species for a particular skin disease, and N is the total number of informants who mentioned that species for any skin-related use.

The **Contribution of Plants to Recipes (CPR)** was calculated to assess the frequency of each plant in recipe preparation:

$$CPR = (RP / RT) \times 100$$

where RP is the number of recipes containing the plant, and RT is the total number of recorded recipes.

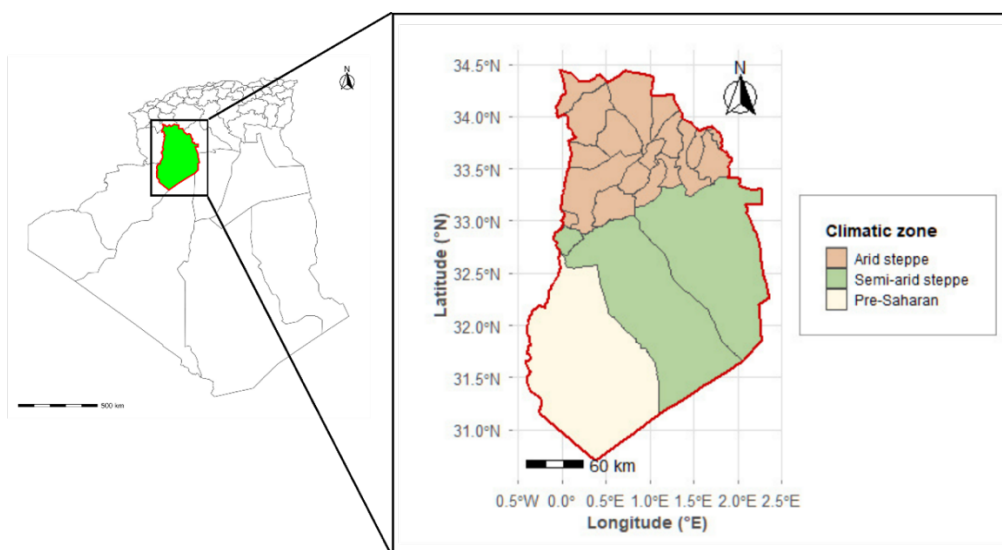


Figure 1. Study area location: El Bayadh, Algeria

Results and Discussion

Sociodemographic characteristics of informants.

In ethnopharmacological studies, sociodemographic characteristics provide essential context for interpreting traditional knowledge. A total of 50 herbalists participated in this survey. Their demographic information, including age, gender, educational level, and source of knowledge, is presented in Table 1.

Table 1. Sociodemographic characteristics and professional experience of herbalists.

Parameter	Category	Number of informants (n)	Frequency (%)
Gender	Female	4	8
Gender	Male	46	92
Age (years)	20–30	4	8
Age (years)	30–40	9	18
Age (years)	40–50	18	36
Age (years)	> 50	19	38
Educational level	Illiterate and primary	22	44
Educational level	Intermediate	16	32
Educational level	Secondary	10	20
Educational level	University	2	4
Source of knowledge	Herbalists (apprenticeship)	21	42
Source of knowledge	Reading	3	6
Source of knowledge	Experience (family business)	26	52

Gender distribution

The majority of informants were male (92%), while 8% were female (Fig. 2), indicating that herbalism in Algeria remains a predominantly masculine domain. Similar patterns were reported in Algeria (Boudjelal *et al.* 2013) and more broadly across Arab countries (Al-Eisawi *et al.* 2015).

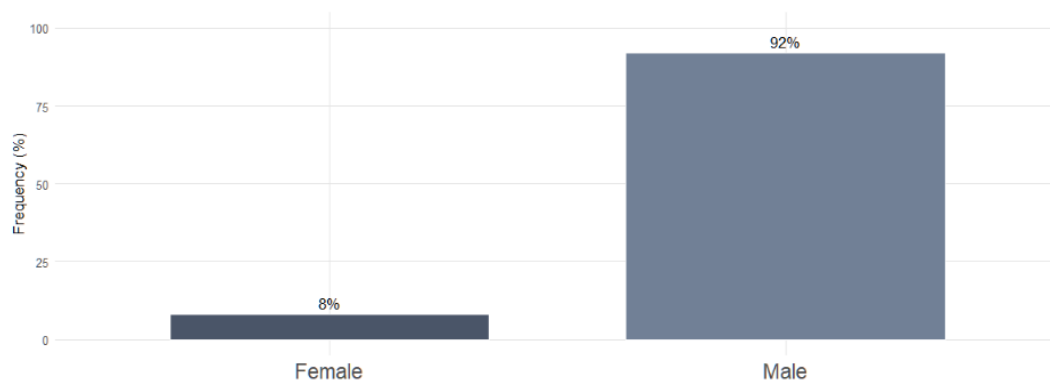


Figure 2. Distribution of informants by gender

Age distribution.

The age distribution of informants was as follows: 20–30 years (8%), 30–40 years (18%), 40–50 years (36%), and > 50 years (38%) (Fig. 3). Traditional knowledge is predominantly held by older practitioners, with 74% of informants being over 40 years of age. The concentration of knowledge among older populations, coupled with diminishing intergenerational transmission, poses a risk of cultural and medicinal knowledge loss (Boudjelal *et al.* 2013, Miara *et al.* 2018, Senouci *et al.* 2019). The 30–45-year group also demonstrated substantial knowledge, likely reflecting accumulated experience (Hammadi & Ahmed 2015).

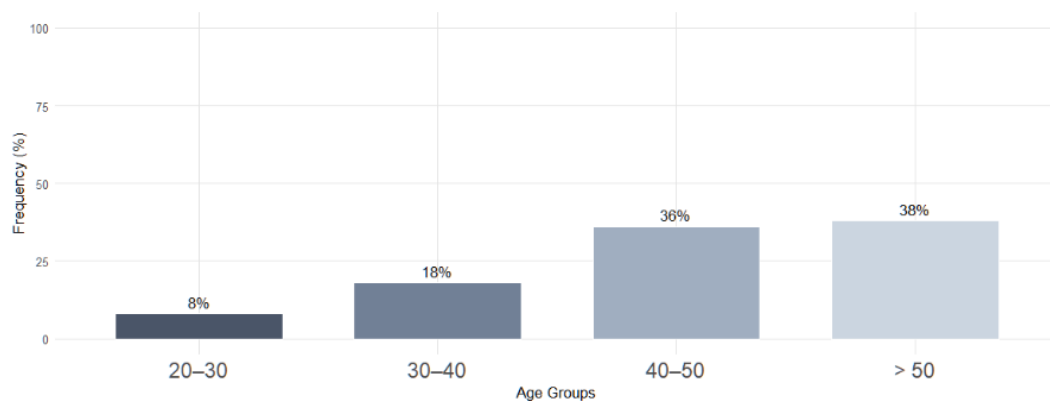


Figure 3. Distribution of informants by age group

Educational level.

Regarding educational attainment (Fig. 4), 44% were illiterate or had only primary education, 32% had intermediate education, 20% had secondary education, and 4% had university education. Similar patterns were reported in Lebanon and Jordan (Abu-Irmaileh & Afifi 2003, Deeb *et al.* 2013).

Knowledge acquisition and transmission.

Sources of knowledge (Fig. 5) were primarily experiential: 52% reported learning through family or workplace experience, 42% via apprenticeship with other herbalists, and 6% through reading. This indicates a dominant oral/practical transmission with minimal reliance on written sources.

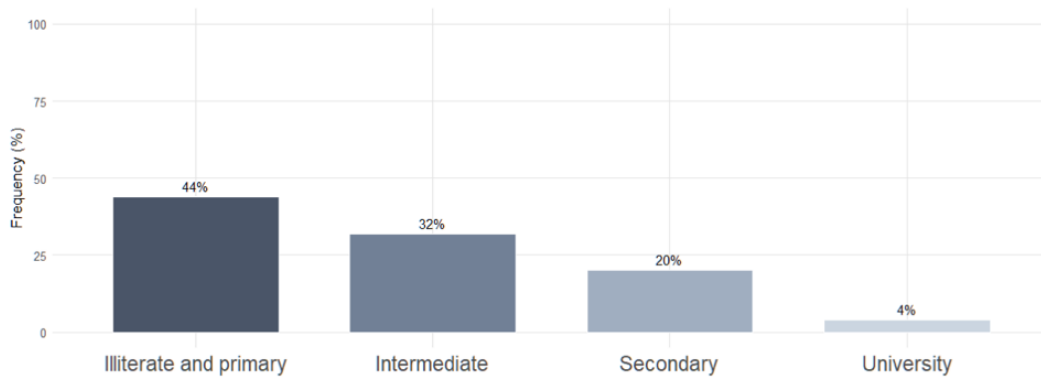


Figure 4. Distribution of informants by education level

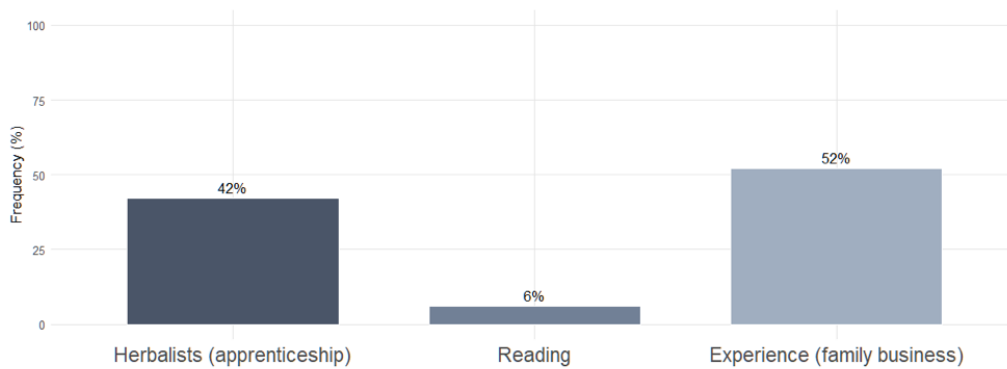


Figure 5. Distribution of informants by source of knowledge

Synthesis of demographic patterns.

Herbalists over 50 years provided the most comprehensive information and reported the highest number of plants use (38% of informants). Limited formal education among older respondents supports the conclusion that knowledge is mainly transmitted through practice and oral tradition rather than formal schooling.

Medicinal species used.

A total of 42 medicinal plant species from 25 families and 40 genera were identified as being used by local people in the El Bayadh region (Table 2). Regarding plant origin, 62% were cultivated and 38% were wild, a pattern possibly linked to desertification and land degradation in the region (Sivakumar 2006).

Table 2. Medicinal plants recorded: family, scientific and local names, origin, voucher numbers, parts used, preparation, route of administration, conditions treated, and FC (%)

Family name	Scientific name	Vernacular Arabic name	Voucher Number	Origin	Part used	Method of preparation	Administrati on mode	Diseases treated	FC (%)	FL (%)	CPR (%)
Amaranthaceae	<i>Haloxylon scoparium</i> Pomel	remth	MPST-27	Wild	Leaves + stems	Powder mixed with olive oil	cream	Shingles	3.60	14	4.93
Amaryllidaceae	<i>Allium cepa</i> L.	bassal	MPST-21	Cultivated	Bulbs	Heated in oil	cataplasm	Abscess; furuncle; bullae	5.67	22	7.74
Amaryllidaceae	<i>Allium sativum</i> L.	thoume	MPST-22	Cultivated	Bulbs	Mixed with olive oil	cream; cataplasm	Alopecia areata; paronychia; cutaneous candidiasis; scabies	3.09	12	4.22
Anacardiaceae	<i>Pistacia terebinthus</i> L.	darow	MPST-28	Wild	Fruits	Oil	cream	Burns	3.60	14	4.93
Arecaceae	<i>Cocos nucifera</i> L.	jouz elhind	MPST-26	Wild + cultivated	Fruits	Oil	cream	Eczema; psoriasis; foot fissures	1.03	4	1.41
Arecaceae	<i>Hyphaene thebaica</i> (L.) Mart.	eddoum	MPST-25	Wild + cultivated	Leaves	Direct application	massage	Insect bites	1.03	4	1.41
Asphodelaceae	<i>Aloe vera</i> (L.) Burm.f.	sabbar	MPST-29	Wild	Stems	Gel application	cream	Acne; eczema; shingles; wounds; macule; skin allergy; scabies	6.70	26	9.15
Asteraceae	<i>Artemisia absinthium</i> L.	chih	MPST-1	Wild	Leaves + stems	Oil	cream	Skin infections	0.51	02	0.70
Asteraceae	<i>Artemisia campestris</i> L.	tgouft; allal	MPST -2	Wild	Leaves + stems	Powder mixed with olive oil	cream	Eczema; shingles	1.03	04	1.40
Asteraceae	<i>Calendula officinalis</i> L.	okhouan	MPST -5	Wild	Flowers	Oil	cream	Shingles	0.51	02	0.70
Asteraceae	<i>Matricaria chamomilla</i> L.	babounj	MPST -3	Wild	Flowers	Decoction	rinsing	Eczema; abscess	1.54	06	2.11
Asteraceae	<i>Silybum marianum</i> (L.) Gaertn.	bouchaoka	MPST -4	Wild	Fruits	Decoction	rinsing	Chickenpox	4.63	18	6.34
Brassicaceae	<i>Brassica juncea</i> (L.) Czern.	khardal	MPST-30	Cultivated	Seeds	Oil	cream	Eczema; psoriasis; vitiligo	0.51	02	0.70
Crassulaceae	<i>Kalanchoe longiflora</i> Schltr. ex J.M. Wood	massassa	MPST-31	Wild + cultivated	Leaves	Heating	cataplasm	Furuncles; abscess; bullae	1.54	06	2.11
Cucurbitaceae	<i>Cucurbita pepo</i> L.	yaktine	MPST-32	Cultivated	Seeds	Oil	cream	Dry skin; psoriasis; scabies	1.03	04	1.41
Cupressaceae	<i>Juniperus phoenicea</i> L.	areare	MPST-33	Wild	Leaves	Ground and mixed with milk	cream	Sunburn	3.60	14	4.93
Euphorbiaceae	<i>Ricinus communis</i> L.	kharouaa	MPST-34	Cultivated + wild	Seeds	Oil	cream	Eczema; psoriasis	2.06	08	2.81
Fabaceae	<i>Cicer arietinum</i> L.	homos	MPST-13	Cultivated	Seeds	Powder mixed with olive oil	cream	Burns	0.51	02	0.70
Fabaceae	<i>Glycyrrhiza glabra</i> L.	erk essous	MPST-12	Cultivated	Roots	Gel application	cream	Shingles; eczema; psoriasis; macule	2.06	08	2.81
Fabaceae	<i>Trigonella foenum-graecum</i> L.	elhalba	MPST-11	Cultivated	Seeds	Infusion; ground and mixed with water	rinsing; cataplasm	Sunburn	0.51	02	0.70

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Lamiaceae	<i>Lavandula angustifolia</i> Mill.	khezama	MPST -7	Cultivated	Flowers	Decoction	rinsing; cataplasm	Eczema; abscess	2.06	08	2.81
Lamiaceae	<i>Marrubium vulgare</i> L.	merioua	MPST-8	Wild	Leaves	Decoction	cataplasm	Eczema; shingles	2.06	08	2.81
Lamiaceae	<i>Mentha spicata</i> L.	nanaa	MPST-9	Cultivated	Leaves + stems	Oil	cream	Insect bites; skin allergy; pruritus	2.57	10	3.52
Lamiaceae	<i>Teucrium polium</i> L.	khiaetet lajrah	MPST -6	Wild	Leaves	Infusion	rinsing or cataplasm	Burns	0.51	02	0.70
Lamiaceae	<i>Thymus vulgaris</i> L.	zaatar	MPST-10	Wild	Leaves	Decoction	rinsing	Psoriasis	4.63	18	6.34
Lythraceae	<i>Lawsonia inermis</i> L.	henna	MPST-17	Cultivated	Leaves	Powder	cataplasm	Foot fissures	0.51	02	0.70
Lythraceae	<i>Punica granatum</i> L.	roumen	MPST-18	Cultivated	Fruits	Mixed with nigella oil (acne); crushed (sunburn)	cream	Acne; sunburn	1.03	04	1.41
Moraceae	<i>Ficus carica</i> L.	tine	MPST-35	Cultivated	Fruits	Latex of immature fruits	cream	Papule	1.54	06	2.11%
Myrtaceae	<i>Melaleuca alternifolia</i> (Maiden & Betche) Cheel	chai	MPST-19	Cultivated	Leaves	Oil	cream; cataplasm	Furuncle; acne; shingles; skin allergy; cutaneous candidiasis	2.57	10	3.52
Myrtaceae	<i>Syzygium aromaticum</i> (L.) Merr. & L.M.Perry	keronfoul	MPST-20	Cultivated	Flowers	Oil	cream	Herpes; shingles	1.54	06	2.11
Oleaceae	<i>Olea europaea</i> L.	zaytoun	MPST-36	Cultivated + wild	Fruits	Oil	cream	Herpes; shingles; psoriasis; eczema	8.76	34	11.97
Pinaceae	<i>Pinus pinea</i> L.	taida	MPST-37	Wild	Stems	Powder	cataplasm	Diaper rash	0.51	02	0.70
Poaceae	<i>Oryza sativa</i> L.	elarez	MPST-23	Cultivated	Seeds	Powder mixed with honey	cream	Burns; dry skin	1.03	4	1.41
Poaceae	<i>Zea mays</i> L.	ethera haba saouda	MPST-24	Cultivated	Seeds	Powder	cataplasm	Diaper rash	1.03	4	1.41
Ranunculaceae	<i>Nigella sativa</i> L. var. <i>sativa</i>		MPST-39	Cultivated	Seeds	Oil	cream	Eczema; shingles; psoriasis; dry skin	4.12	16	5.63
Rhamnaceae	<i>Ziziphus jujuba</i> Mill.	sedra	MPST-38	Wild	Leaves	Powder mixed with olive oil	cream	Shingles	0.51	02	0.70
Rosaceae	<i>Malus domestica</i> (Suckow) Borkh.	teffah	MPST-15	Cultivated	Fruits	Mixed with olive oil	cream	Herpes; acne	2.54	10	3.52
Rosaceae	<i>Prunus dulcis</i> (Mill.) D.A.Webb	louz	MPST-14	Cultivated	Seeds	Oil	cream	Abscess; psoriasis; dry skin	4.12	16	5.63
Rosaceae	<i>Rosa damascena</i> Mill.	ward	MPST-16	Wild + cultivated	Flowers	Infusion	cream	Acne	0.51	02	0.70
Rutaceae	<i>Citrus limon</i> (L.) Burm.f.	leimoune	MPST-40	Cultivated	Fruits	Juice with honey and glycerin (acne, dry skin); essential oil (herpes)	cream	Acne; dry skin; herpes	4.63	18	6.34
Solanaceae	<i>Solanum tuberosum</i> L.	batata	MPST-41	Cultivated	Tubers	Potato peel	cataplasm	Wart	0.51	02	0.70
Zingiberaceae	<i>Curcuma longa</i> L.	korkoum	MPST-42	Cultivated	Rhizome	Ground and mixed with olive oil or yogurt	cream	Eczema; psoriasis; shingles; sunburns; macule	8.24	32	11.27

Family distribution and importance

Family importance was determined by the citation frequency of species within each family (Fig. 6). The most representative families were Lamiaceae and Asteraceae (11.90% each), followed by Fabaceae and Rosaceae (7.14% each). Five families (Myrtaceae, Lythraceae, Arecaceae, Poaceae, and Amaryllidaceae) each represented 4.76% of the species. Fifteen additional families (Crassulaceae, Rutaceae, Euphorbiaceae, Anacardiaceae, Cucurbitaceae, Pinaceae, Solanaceae, Rhamnaceae, Cupressaceae, Brassicaceae, Moraceae, Zingiberaceae, Oleaceae, Asphodelaceae, and Ranunculaceae) each accounted for 2.38% of the documented species.

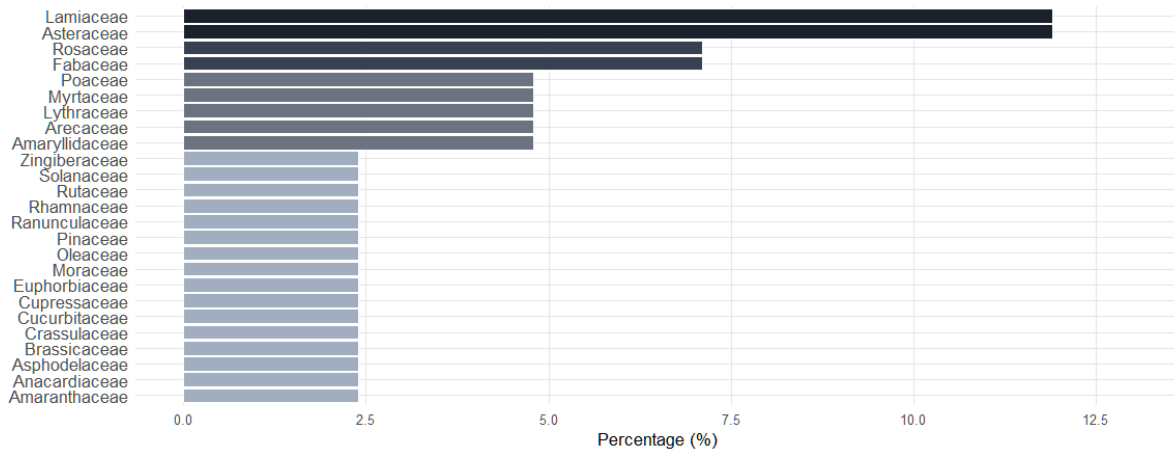


Figure 6. Frequency of citation by plant family

Dominant families in dermatological applications

Lamiaceae is one of the dominant families in terms of species used for treating skin diseases. With over 7,000 species, this family exhibits remarkable diversity and cosmopolitan distribution (Sim *et al.* 2019). Species from this family have been traditionally utilized in the treatment of allergic and inflammatory skin diseases.

Asteraceae also represents a major contributor, encompassing over 25,000 species worldwide (Gazim *et al.* 2022). Species of this family are of medicinal importance due to high antioxidants and polyphenol content, contributing to platelet function regulation and reduced severe inflammatory reactions in wounds (Saluk *et al.* 2010).

Fabaceae, the legume family, comprises ~19,500 species (Beech *et al.* 2017). Beyond its economic importance as a source of protein and micronutrients (Bibi *et al.* 2021), several species possess dermatological applications.

Rosaceae, with >3,000 species, has been extensively investigated for dermatological potential. Many species show strong anti-inflammatory and antioxidant properties (Cristea *et al.* 2025). Additional families including Myrtaceae, Lythraceae, Arecaceae, Poaceae, and Amaryllidaceae have been recognized for beneficial effects on skin diseases, often related to anti-inflammatory and antioxidant activities (Favela-González *et al.* 2020, Thakur *et al.* 2025).

Preparation and administration methods

We documented local names, plant parts used, and preparation/administration methods for all medicinal plants identified in the study area (Table 3).

Table 3. Comparison of documented uses with previous ethnobotanical reports.

Skin diseases	Plants	Part used	Country	References
Dry skin	<i>Lawsonia inermis</i>	Leaves	India	Policepatel & Manikrao 2013
Acne	<i>Rosa damascena</i> Mill.	Flowers	China	Zu <i>et al.</i> 2010
Dry skin	<i>Lawsonia alba</i>	Leaves	Palestine	Jaradat. 2005
Eczema; wounds	<i>Lavandula angustifolia</i>	Flowers	Kazakhstan	Bolatkyzy <i>et al.</i> 2025
Ulcer	<i>Allium sativum</i>	Bulbs	Nigeria	Ajibesin 2012
Eczema	<i>Cocos nucifera</i>	Fruits	India	Anand <i>et al.</i> 2021
Eczema; psoriasis	<i>Nigella sativa</i>	Oil	Japan	Aggarwal <i>et al.</i> 2011
Eczema; shingles	<i>Olea europaea</i>	Oil	India	Anand <i>et al.</i> 2021

Psoriasis ; Sun Burns	<i>Curcuma longa</i>	Rhizome	India	Biswas <i>et al.</i> 2016
Allergy; sunburn	<i>Pinus pinea</i>	Stems	Iran	Iravani & Zolfaghari 2011
Burn	<i>Pistacia terebinthus</i>	Fruits	Algeria	Bouasla & Bouasla 2017
Abscess; furuncle	<i>Allium cepa</i>	Bulbs	Algeria	Bouasla & Bouasla 2017
Burn	<i>Punica granatum</i>	Fruits	Indonesia	Lukiswanto <i>et al.</i> 2019
Infections	<i>Artemisia absinthium</i>	Leaves + stems	Palestine	Jaradat 2005

Plant parts used

Leaves were most frequently used (25.13%), followed by fruits (20.32%), seeds (18.18%), stems (11.76%), roots (10.70%), bulbs (8.02%), flowers (5.34%), and tubers (0.53%) (Fig. 7). The predominance of leaves is widely documented (Meddour *et al.* 2022, Sulaiman *et al.* 2020) and is often attributed to ease of handling and sustainability; harvesting leaves within reasonable limits is less detrimental than harvesting other parts (Jadid *et al.* 2020).

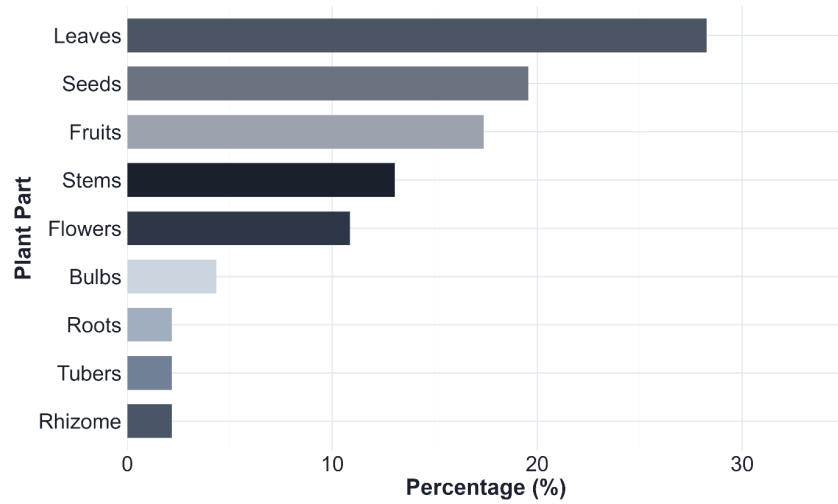


Figure 7. Plant parts used

Preparation methods

Plants are primarily used dried (58%), with fresh plants used less often (42%). The most common preparation method was oil extraction (38%), followed by infusion (26%), maceration (24%), and decoction (10%) (Fig. 8). Infusions and decoctions are generally prepared using leaves, whereas essential oils typically derive from seeds. Plant oils provide an occlusive barrier that helps retain skin moisture; topical delivery offers higher dermal bioavailability and localized effects. The majority of preparations are used as such (69%), while 21% are mixed with additives such as honey or olive oil.

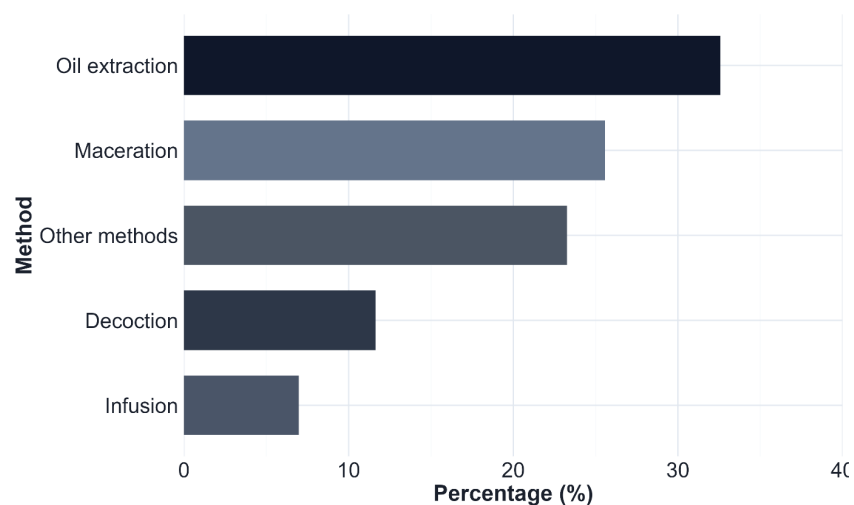


Figure 8. Preparation methods

Administration methods

Applications were grouped into four categories (Fig. 9): topical application (67%), cataplasm/compress application (17%), washing (11%), and oral administration (3%).

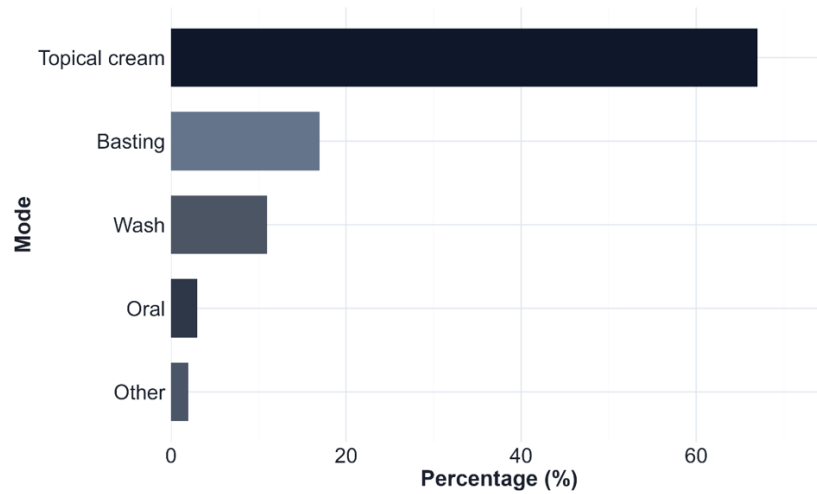


Figure 9. Administration modes

Skin conditions treated by medicinal plants.

As shown in Fig. 10, medicinal plants are used to treat and manage 25 skin diseases in the El Bayadh region. The four most commonly treated conditions are eczema, psoriasis, shingles, and acne.

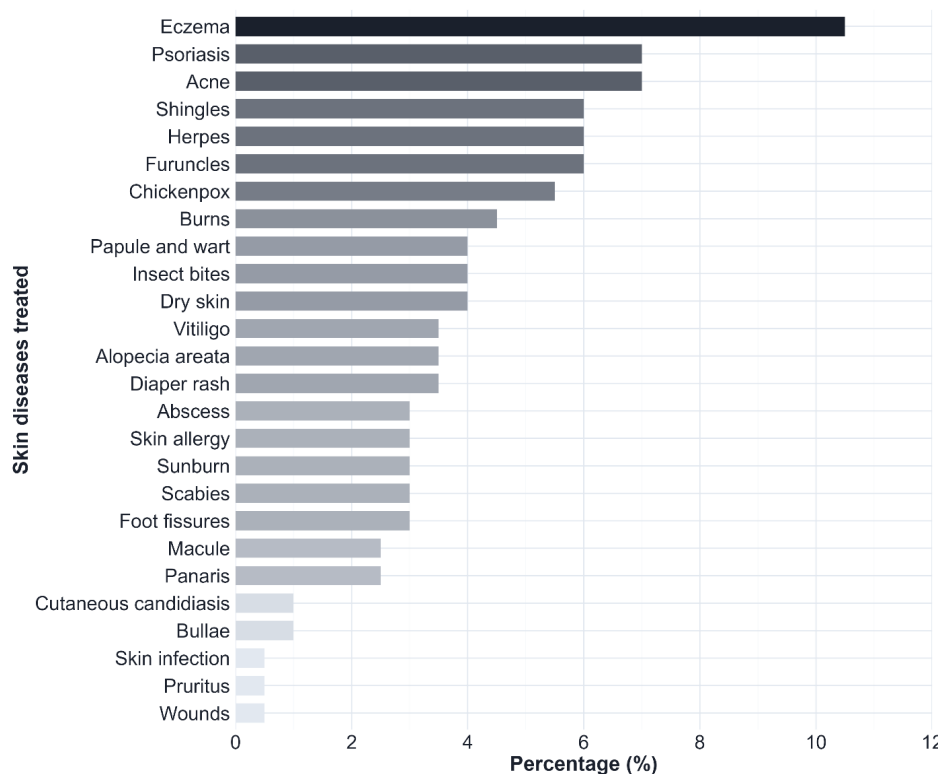


Figure 10. Frequency of skin conditions treated (as reported by informants).

Atopic dermatitis (eczema)

The most frequently treated condition was atopic dermatitis (10.71%). Eczema commonly affects adults, with an estimated prevalence of 3–10% in the general population (Langan *et al.* 2023). It is a chronic, non-infectious inflammatory disorder characterized by dry, pruritic, eczematous lesions. Flavonoids show promise due to anti-inflammatory, antioxidant, and anti-allergic properties (Madatheri *et al.* 2025). Species cited in this study include *Aloe vera*, *Brassica juncea*, *Artemisia campestris*, *Lavandula angustifolia*, *Glycyrrhiza glabra*, *Cocos nucifera*, *Nigella sativa*, *Marrubium vulgare*, *Olea europaea*, *Curcuma longa*, *Ricinus communis*, and *Matricaria chamomilla*.

Psoriasis

Psoriasis accounted for 8.14%. It is a chronic inflammatory skin disease affecting 2–11% of the global population (Bandyopadhyay & Larregina 2020). Species reported for psoriasis include *Brassica juncea*, *Glycyrrhiza glabra*, *Cocos nucifera*, *Thymus vulgaris*, *Nigella sativa*, *Cucurbita pepo*, *Olea europaea*, *Curcuma longa*, and *Ricinus communis*.

Shingles (herpes zoster)

Shingles accounted for 6.39% of treated conditions, predominantly in older individuals (Weinberg 2007). Typical rashes occur in a dermatomal pattern (Khatiwada *et al.* 2021). Reported plants include *Syzygium aromaticum*, *Artemisia campestris*, *Glycyrrhiza glabra*, *Melaleuca alternifolia*, *Calendula officinalis*, *Ziziphus jujuba*, *Nigella sativa*, *Aloe vera*, *Marrubium vulgare*, *Olea europaea*, *Curcuma longa*, and *Haloxylon scoparium*.

Acne vulgaris

Acne is a chronic disease frequently managed by dermatologists (Zaenglein *et al.* 2016) and affects 35–90% of adolescents (Koch *et al.* 2024, Melnik *et al.* 2015). Several species showed antibacterial and antioxidant properties, notably *Melaleuca alternifolia*, *Malus domestica*, and *Aloe vera*.

Conclusion

This study documents the use of medicinal plants by traditional herbalists in the El Bayadh region of Algeria and quantifies their applications to skin diseases. A total of 42 species from 25 families were recorded, with Lamiaceae and Asteraceae the most represented. These plants were used against 25 dermatological conditions (e.g., eczema, psoriasis, shingles, acne, herpes). Leaves were the most frequently used plant part, and oil-based preparations were the most common method of preparation.

Most respondents reported patient satisfaction (89%) with medicinal plant treatments and indicated limited reliance on hospital visits or allopathic drugs. Given their low direct costs, these remedies may be perceived as cost-effective in this context. Cross-cultural comparison suggested broad concordance with previous ethnobotanical reports, supporting the potential bioactivity of the recorded taxa. Some uses appear to be less documented in the literature and may warrant targeted follow-up.

Traditional knowledge was concentrated among older practitioners, highlighting the urgency of systematic documentation and intergenerational transmission. The present inventory can inform future integration of evidence-based traditional practices into healthcare, contingent on pharmacological validation, safety assessment, and regulatory evaluation. Priority avenues include *in vitro/in vivo* studies of frequently cited species and conservation measures for culturally salient taxa.

Declarations

List of abbreviations: FC: Frequency of Citation.

Ethics approval and consent to participate: Formal ethical approval was not required for this study. However, the research complied with the International Society for Ethnobiology (ISE) Code of Ethics, the Convention on Biological Diversity, and the Nagoya Protocol on Access and Benefit Sharing. Prior informed verbal consent was obtained from all participants, who were fully informed about the study's aims and their contribution.

Consent for publication: Not applicable.

Availability of data and materials: All data supporting the results are included in the article's tables and figures. The underlying datasets are available from the corresponding author on reasonable request. [If any dataset is deposited publicly, provide the repository and accession.]

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Authors' contributions: Nadia Toumi: Conceptualization, Methodology, Investigation, Writing – Original Draft, Writing – Review & Editing. Zohra Nouri: Investigation, Visualization, Writing – Original Draft. Abbas Dellal: Supervision, Writing – Original Draft, Writing – Review. Rachida Benabdallah Benarmas: Visualization, Writing – Original Draft. Fatima Zohra Bekri: Formal Analysis, Visualization, Mustapha Mahmoud Dif : Writing – Original Draft & Editing. All authors read and approved the final manuscript.

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