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Diversity of Medicinal Plants and TheirEffects on the Treatment of GastrointestinalDiseases

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BEFORE THE JURY

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ABSTRACT

Gastricdiseases, particularlygastritis and gastriculcers, are among the mostcommongastrointestinaldisordersworldwide. In addition to conventionaltreatments, medicinal plants remainwidelyused in traditionalmedicinebecause of theirgastroprotective, antispasmodic, and digestive properties. This studyaimed to document the diversity of wildmedicinal plants used in the management of gastricdisorders in the Wilaya of Setif, Algeria.AnethnobotanicalsurveywasconductedbetweenFebruary and March 2026 among 125 participants, includingherbalists and consumers of medicinal plants. Data werecollectedthroughstructured questionnaires and direct interviews. The resultsrevealed the frequent use of severalwildmedicinalspecies in the Setifregion, including Thymus algeriensisBoiss. &Reut., Rosmarinusofficinalis L., Artemisiacampestris L., Artemisia herba-alba Asso., Foeniculumvulgare Mill., Pimpinellaanisum L., and Matricariachamomilla L., for the treatment of epigastric pain, digestive spasms, bloating, flatulence, and indigestion. In pediatric care, traditionalherbalpreparationscontainingCarum carvi L., Matricariachamomilla L., and Trigonellafoenumgraecum L. werecommonlyused to relieve infantile colic. The reportedtherapeuticeffectswereprimarilyassociatedwithantispasmodic, digestive, and gastroprotectiveactivities.Thesefindingshighlight the importance of medicinal plants as valuablecomplementarytherapies for gastricdisorders in Setif. However, theirsafe use requiresappropriatemedical supervision to preventpotential adverse effects and herb–drug interactions. Sustainable management and rational use of medicinal plant resources are also essential for conservingvegetationcover, maintainingecosystem balance, and ensuring the availability of theseresources for future generations.

KEYWORDS: Medicinal plants; Gastricdisorders; Ethnobotany; Phytotherapy; Sustainable use.

ملخص

تعدأمراضالمعدة،ولاسيماالتهابالمعدةوقرحةالمعدة،منبينأكثرالاضطراباتالمعديةالمعويةشيوعاًعلىمستوىالعالم .
وبالإضافةإلىالعلاجاتالتقليدية،لاتزالالنباتاتالطبيةمستخدمةعلىنطاقواسعفيالطبالتقليديبفضلخصائصهاالواقيةللمعدة،والمضادةللتشنج ،والمساعدةعلىالهضم. وقدهدفتهذهالدراسةإلىتوثيقتنوعالنباتاتالطبيةالبريةالمستخدمةفيعلاجاضطراباتالمعدةفيولايةسطيفبالجزائر.

أُجريتدراسةإثنوبوتانيةخلالالفترةالممتدةمنفبرايرإلىمارس2026،وشملت 125
مشاركاًمنالعشابينومستعمليالنباتاتالطبية،وذلكباستخداماستبياناتومقابلاتمباشرة .
أظهرتالنتائجالاستعمالالمتكررلعدةأنواعنباتية،منبينها :
الزعترالجزائري،وإكليلالجبل،والشيحالحقلي،والشيحالأبيض،والتمر،واليانسون،والبابونج،لعلاجآلاممالمعدة،والتشنجاتالهضمية،و الانتفاخ،والغازات،وعسرالهضم،كمااستخدمتالكروية،والبابونج،والحلبةبشكلشائعلتخفيفالمغصعندالرضع.

وتعزىالفعاليةالعلاجيةلهذهالنباتاتأساساًإلىخصائصهاالمضادةللتشنج،والمساعدةعلىالهضم،والواقيةللمعدة .
وتؤكدهذهالنتائجأهميةالنباتاتالطبيةكعلاجمكملللاضطراباتالمعدة،معضرورةاستخدامهابشكلآمنوتحتإشرافمختصلتجنبالآثارالجانبية والتداخلاتالدوائية،إلىجانبضمانالاستغلالالمستداملهذهالمواردالنباتيةوالمحافظةعليها.

الكلماتالمفتاحية: النباتاتالطبية،اضطراباتالمعدة،العلاجبالنباتات،الاستعمالالمستدام.

INTRODUCTION

Introduction

Despiteremarkableadvances in modern medicine, gastricdisorders continue to pose important therapeutic challenges, prompting the search for complementary and alternative treatmentapproaches. These conditions resultfrom an imbalancebetweenaggressivefactors, such as Helicobacter pylori infection, prolonged use of nonsteroidal anti-inflammatorydrugs,oxidative stress, smoking, and dietary habits, and the protective mechanisms of the gastricmucosa, including mucus and bicarbonate secretion, epithelialregeneration, and mucosal microcirculation. If leftuntreated, gastricdisordersmay lead to serious complications and significantly affect patients' quality of life.

Currenttherapeuticstrategiesmainlyrely on mucosal protective agents, and antibioticregimens for the eradication of Helicobacter pylori. Althoughthesetreatments are generally effective, their long-term use maybeassociatedwith adverse effects, high costs, and increasingantimicrobialresistance. Consequently, thereis,growinginterest in complementary and alternative therapeuticapproaches, particularlythosebased on medicinal plants.

Medicinal plants have been used for centuries in traditionalhealthcaresystems to prevent and treat digestive disorders. In Algeria, severalmedicinalspecies are traditionallyused to alleviategastric and digestive ailments, notably *Thymus algeriensisBoiss. &Reut., Rosmarinusofficinalis L., Origanumvulgare L., Marrubiumvulgare L., Artemisiacampestris L., Artemisia herba-alba Asso., Matricariachamomilla L., Foeniculumvulgare Mill.., Pimpinellaanisum L., Punicagranatum L., and Olea europaea L.*

Setifregionpossesses a richfloristicdiversity and a valuableethnobotanicalheritage, particularly in semi-aridregionswheretraditionalknowledgeconcerningmedicinal plants remainswidelypreserved. However, the progressive loss of traditionalknowledge and the increasing pressure on natural plant populations highlight the need for ethnobotanical documentation and sustainableresource management.

The presentstudyaims to document the diversity of spontaneousplantsmedicinal plants in the Setifregionthat are traditionallyused for the treatment of gastricdisorders, whileemphasizing the importance of their conservation and sustainable management . More specifically, the objectives of thisstudy are to:

- identify the medicinal plant speciestraditionallyused in the management of gastricdiseases
- document theirmethods of preparation and therapeutic applications;
- assesstheirperceivedeffectivenessamong local populations;
- contribute to the preservation and promotion of traditionalethnobotanicalknowledgewhileencouraging the rational and sustainable use of medicinal plant resources.