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EXTRACTS AND NATURAL PRODUCTS, ACTIONS AND THERAPEUTIC PARTICULARITIES

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PREFACE

The information presented in this volume represents the authors' contribution to the knowledge of natural resources.

The book is a message addressed to those who love and value the gifts of nature, as well as the efforts of those who, over time, have dedicated moments to understanding and promoting them.

MD PhD Ramona-Niculina Jurcău, coordinator and editor

Integrative api-phyto-aromatherapy in primary care: professional societies as catalysts for evidence-based implementation in family medicine

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Introduction

Family medicine, as the cornerstone of primary healthcare delivery, embodies principles that align naturally with integrative approaches to patient care. The discipline's emphasis on treating the whole person within their biopsychosocial context, maintaining continuity of care, and addressing both acute and chronic conditions positions family physicians as ideal coordinators of integrative therapeutic approaches (Hoenders et al., 2024).

The World Health Organization's Traditional Medicine Strategy 2014-2023, recently updated in their 2024 global report, explicitly calls for the evidence-informed integration of traditional and complementary medicine into health systems, particularly within primary care frameworks (World Health Organization, 2024). The American Academy of Family Physicians recognizes the importance of integrative approaches, stating that physicians can best serve their patients when evidence-based integrative approaches are offered alongside conventional care (American Academy of Family Physicians, 2024).

The integration of apitherapy (therapeutic use of bee products), phytotherapy (plant-based medicine), and aromatherapy (essential oil therapy) represents a particularly promising approach due to their documented therapeutic synergies and established safety profiles. Recent systematic reviews have demonstrated the clinical efficacy of these modalities across conditions commonly seen in family practice, including respiratory disorders,

Bees and the Prostate: Exploring Apitherapy's Role in Urological Pathology

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Introduction

Apitherapy is the therapeutic use of products derived from honeybees, such as honey, propolis, royal jelly, bee venom, and pollen. With historical roots in traditional and folk medicine, apitherapy has recently attracted renewed scientific interest as a complementary and integrative medical approach. These products contain numerous bioactive compounds, such as flavonoids, phenolic acids, enzymes, peptides, and melittin, which exhibit anti-inflammatory, antimicrobial, antioxidant, immunomodulatory, and antiproliferative properties.

In urology, prostate-related disorders are a significant cause of morbidity in ageing men. The pathophysiological mechanisms of chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS), benign prostatic hyperplasia (BPH), and prostate cancer (PCa) are complex and overlapping, involving inflammation, oxidative stress, immune dysregulation, and hormonal imbalance.. Despite advances in pharmacological and surgical management, many patients experience persistent symptoms or adverse effects, prompting growing interest in complementary therapeutic strategies.

In this context, apitherapy has emerged as a potential complementary approach to treating prostate disease. Early experimental and clinical studies suggest that bee products may modulate inflammatory pathways, reduce oxidative stress, and influence androgen-dependent processes relevant to prostate pathology. This chapter aims to explore the rationale and evidence for integrating apitherapy into the management of prostate health.

Ginseng, characteristics and particular health benefits

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Introduction

Ginseng (GSG) is a plant that has been used in Asia for over 4,000 years (Brekhman & Dardymov, 1969). It is particularly popular in China, Japan and Korea. In modern times, with the interest in Asian herbal supplements in the West, GSG has been increasingly used in North America, Europe, and other parts of the world (Ru et al., 2015).

History

GSG was used as a source of food during times of famine, and later for its fortifying and invigorating properties. The earliest written records of ginseng date back to around the 1st century AD in China. The root was then used as a tonic to invigorate weakened individuals and make them robust and strong (Hu, 1977; Yun, 2001; Jia, 2009). Prescriptions for the therapeutic use of ginseng were found in Shanghan Lun's treatise on fevers, written between 196 and 200 AD. In publications from later centuries, authors describe the production, cultivation, morphology of the plant, and its root (Hu, 1977, Yun, 2001). Traditionally, red ginseng has been used to restore and improve the health of weakened individuals and is often referred to as an adaptogen (Jia, 2009).

Honey and its role in neuroprotection

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Health benefits

Honey has many health benefits, most studied are the antimicrobial and antiinflammatory, antioxidant, antidiabetic actions (Viuda-Martos et al., 2008; Hossain et al., 2022; Brava et al., 2024).

Antimicrobial effect

There are multiple studies that have demonstrated the antimicrobial effect of honey (Ogwu & Izah, 2025). Honey has been proven to have good action against *Staphylococcus aureus*, *Streptococcus viridans*, *Helicobacter pylori*, also exert antifungal and antiparasitic effects (Celebi et al, 2023). Thus, honey is mainly used to relieve coughs and to improve symptoms of acute upper respiratory tract infections (Abuelgasim et al., 2021).

Anti-inflammatory effect

Honey through the polyphenol content, inhibit the release of pro-inflammatory cytokines, such as TNF- β , IL-1 β and modulate the inflammatory response by inhibiting the activity of antigen-stimulated T lymphocytes (Navaei-Alipour et al., 2021). The immunomodulatory component in honey is MRSPs, and in propolis, CAPE (Brava et al., 2024).

Antioxidant value of propolis, scientific and practical benchmarks

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Polyphenols and Flavonoids

The favorable implications in improving the oxidative and psychological stress action of honey and propolis are largely due to the content of polyphenols and flavonoids. The antioxidant activity of these molecules is demonstrated in numerous *in vitro* studies, on laboratory animals and on human subjects (Jurcău et al., 2020).

Polyphenolic acids are considered a group of antioxidant substances, and flavonoids represent a subclass of this group. In the composition of honey and propolis, molecules from the category of phenolic acids are mentioned, as well as substances from the subcategory of flavonoids (Giampieri et al., 2022)

The anti-oxidative stress actions consist, largely, in the ability to directly cleave free radicals. Quercetin, among the most studied flavonoids, has a studied and confirmed role in stimulating both enzymatic and non-enzymatic endogenous antioxidant activity (Zakaria et al., 2022).

The role in improving psychological stress and its consequences is also due to the content of polyphenols. Quercetin improves depression, depression-related behaviors, and CUMS-related behaviors. There are also studies that have demonstrated the ability to suppress acute stress (Pasupuleti et al., 2017).

Genomic Natural Therapy: A Precision Framework for the Personalization of Aromatherapy, Phytotherapy, and Apitherapy

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Abstract

Treatment personalization is the cornerstone of precision medicine and in the context of natural therapies, the efficacy of remedies (phytotherapy, apitherapy, aromatherapy) is affected by individual genetic variability, particularly concerning the metabolism of bioactive compounds. This article presents the Genomic Natural Therapy (GNT) Model, an innovative conceptual framework that integrates genetic testing data to optimize the composition, dosage, and frequency of natural therapy administration. The analysis focuses on the interactions between essential constituents (e.g., linalool, limonene) and the polymorphisms of genes involved in detoxification (CYP450, GST), emotional regulation (COMT, SERT), and hormonal balance (ESR1). The GNT Model proposes a revolution in integrative medicine by offering wellness solutions based on genetic evidence, transforming traditional approaches into high-precision interventions.

1. Introduction: The Need for Precision Therapy

The conventional approach to natural therapies (phytotherapy, apitherapy, aromatherapy) often relies on empirical protocols or population statistics, failing to account for the high variability in individual response. Although bioactive compounds from plants and bee products are recognized for their benefits, the efficacy of a specific remedy can be excellent for one person and minimally or non-existent for another (Rosenberg, 2025b). This

The Synergy between Apitherapy, Phytotherapy, and Aromatherapy in Disease Prevention and Treatment

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Abstract

The integration of natural therapies has attracted significant attention for its potential in disease prevention and management. Apitherapy, phytotherapy, and aromatherapy offer unique bioactive compounds, and their combined use can enhance efficacy through synergistic interactions. This paper explores the mechanisms and clinical applications of these combined therapies in the context of immunomodulation, inflammation reduction, and antimicrobial activity. Research indicates that api-phyto-aromatherapy enhances therapeutic efficacy across various conditions: Propolis and Tea Tree Essential Oil synergistically combat antibiotic-resistant pathogens by inhibiting biofilm formation. The combination of Royal Jelly and Curcumin reduces inflammatory cytokines, benefiting conditions like rheumatoid arthritis. The integration of these natural therapies represents a promising complementary approach in the management of chronic diseases and antimicrobial resistance, but requires protocol standardization through further studies.

1. Introduction

In recent years, the alarming rise of antibiotic resistance and the prevalence of chronic inflammatory diseases have shifted attention toward integrative medicine and natural therapies. Apitherapy (bee-derived products: honey, propolis, royal jelly), phytotherapy (medicinal plants), and aromatherapy (essential oils) are individually recognized for their rich content

Potential of *Baccharis* spp. (Asteraceae) essential oils as antimicrobials. The case of *B. microdonta*, *B. megapotamica* and *B. vulneraria*

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Abstract

Baccharis L., one of the main genera belonging to the Asteraceae; it is exclusively present in the Americas. These plants have been recognised as a valuable resource for Ethnomedicine, being one of the main popular elections for the treatment of microbial infections in the skin. In the world-wide context of increasing microbial resistance, the search of alternatives is imperative, being essential oils promising antimicrobial plant extracts by their chemical complexity, able to prevent the developing of detoxification mechanisms, crossing the microbial membranes and exerting multi-target attack inside the cells. In this work, aerial parts of the species *B. megapotamica* Spreng., *B. microdonta* DC., and *B. vulneraria* Baker were steam distilled for obtaining their essential oils. These oils were chemically analyzed by gas chromatography coupled to mass spectrometry (GC-MS), while an indirect

Honey as a prophylactic and therapeutic factor for bone health

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Abstract

The article evaluates the effects of honey on bone health, focusing on its preventive and therapeutic properties against bone density loss and related disorders. Research has highlighted the beneficial effects of honey on bone health, in terms of bone microstructure and resistance, as well as its impact on oxidative stress. Honey can promote bone health mainly due to its antioxidant and anti-inflammatory properties, primarily through its polyphenol content, which determines anabolic and anti-resorptive effects. In osteoporosis, preclinical studies have shown favorable effects of honey on cortical and trabecular bone microstructure, bone resistance and oxidative stress. The limited number of clinical studies conducted requires further research to establish the benefits, optimal dose and selective mode of administration of honey in the treatment of postmenopausal osteoporosis. From our experience, several clinical cases are then presented that highlight the favorable effects of honey, sometimes in combination with other api-phyto-aromatherapeutic products, in the treatment of clinical cases with bone or osteoarticular injury, emphasizing its anti-infective, anti-inflammatory and wound healing actions. In conclusion, the promising favorable effects of honey on bone health need to be validated by amplifying research in the clinical sphere, especially on postmenopausal women. Long-term data are needed that can highlight the decrease in bone loss and fracture risk through regular consumption of honey and other api-phytotherapeutic products.

Thank you for reading!