



(RESEARCH ARTICLE)



## Overview on the role of aromatherapy in therapeutic practices in Algeria

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### Abstract

Aromatherapy is a complementary medicine modality that involves the utilization of plant-derived essential oils for therapeutic purposes. This study aimed to investigate the prevalence of aromatherapy use among the general population and health professionals in Algeria through two surveys.

The first survey was conducted over a 30-day period in 20 department and included 237 individuals, while the second survey was conducted over a six-day period in Algiers and included 61 health professionals, including physicians, pharmacists, and herbalists. Both surveys were self-administered and conducted through online platforms and various institutes, companies, shops, and stores.

Our findings revealed a notable level of confusion among both the general population and health professionals between essential oils and vegetable oils. In addition, essential oils were not commonly prescribed or recommended by physicians and pharmacists, whereas herbalists were found to be more likely to suggest their use.

Considering the abundant flora in Algeria and the public's interest in natural medicine, aromatherapy could potentially serve as a valuable healthcare modality by establishing scientific and therapeutic foundations, promoting the production of high-quality essential oils, and training qualified professionals. However, it is important to exercise caution when utilizing these products due to their potential toxicity, and their use should be guided by specialists in the field.

**Keywords:** Aromatherapy; Essential oils; Survey; Therapeutic; Toxicity; Algeria

### 1. Introduction

Aromatherapy is a complementary medicine practice that involves the use of essential oils extracted from plants for therapeutic purposes [1]. This practice has been used for centuries and has gained increasing attention in recent years, with many individuals seeking alternative and holistic approaches to healthcare [2]. Despite the widespread use of aromatherapy, there is still a lack of scientific evidence supporting its efficacy and safety, which has led to controversy within the medical community [3]. The use of these products is not without danger, its practice requires a specialist in the field given their toxicity [4].

### 2. Material and methods

#### 2.1. Objectives of the survey

The objective of this study is two fold

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- To conduct an inventory of the essential oil circuit, encompassing the manufacturing, marketing, and consumption phases, among both health professionals and the general population [5,6].
- To initiate a scientific discussion on the role of aromatherapy in the therapeutic arsenal of Algeria, with a focus on the important role that pharmacists could play in this context [5,6].

## 2.2. The questionnaire

- Two questionnaires were developed based on scientific search database (Google Scholar, ScienceDirect, Medline, Web of Science, Scopus) and by using keywords such as essential oils, aromatherapy, toxicity [7,8,9,10].
- A questionnaire was designed and distributed to a representative sample of healthcare professionals, including doctors, pharmacists, and herbalists, as well as the general public.
- The survey collected information on the knowledge, attitudes, and practices regarding the use of aromatherapy in healthcare settings, as well as the perceived benefits and limitations of this approach [7,8,9,10].

## 2.3. Investigation process

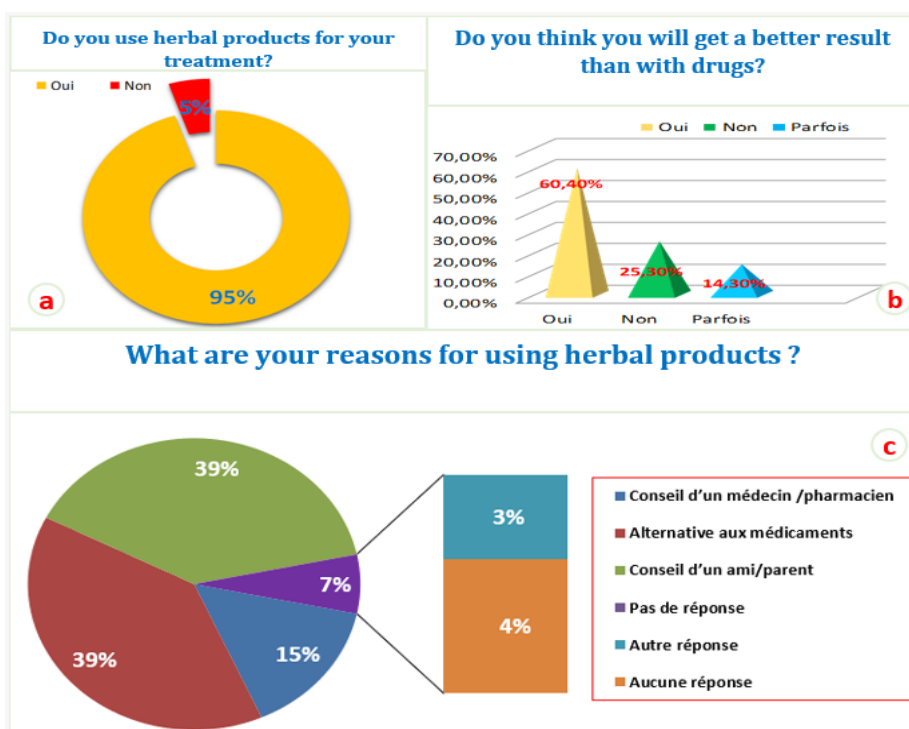
The questionnaires are disseminated through two distinct modalities, namely physical distribution via hand-delivery and digital distribution via the internet. The data collected from the survey were analyzed and processed on Microsoft Excel (2016).

## 3. Results

### 3.1. Survey for General Population

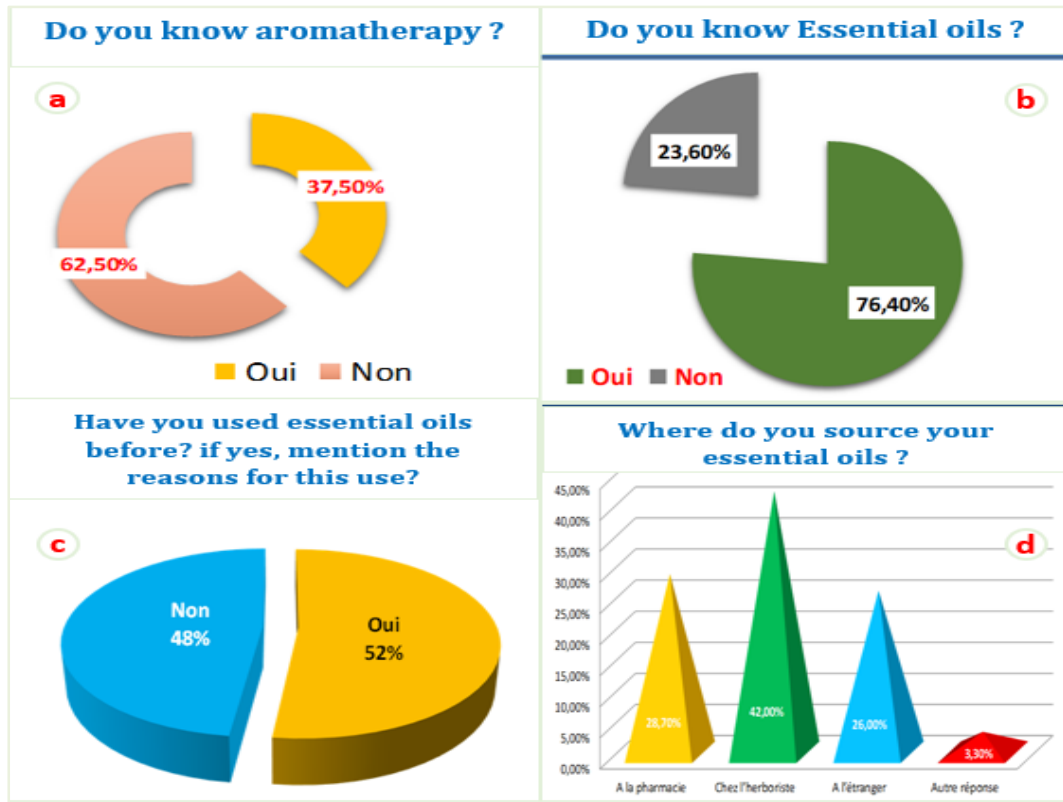
- The General Population Survey consisted of a sample of 237 individuals and was conducted in Algeria across 20 departments for a duration of 30 days from January 15th, 2016 to February 14th, 2016.
- The survey was self-administered through various methods including online platforms, institutes such as the French Institute of Algiers and the Pasteur Institute, companies like MSC, shops and stores, as well as higher schools and the University of Algiers and SIPHAL.

The results are represented by the following graphs (Figure 1, 2)



[(a) Frequency of use of herbal products (b) Reasons for using herbal products (c) Confidence in herbal products vs. Medications]

**Figure 1** The role of natural plant-based products in therapeutics among the general population



[(a) About aromatherapy, (b) About essential oils, (c) Use of essential oils, (d) Supply of essential oils]

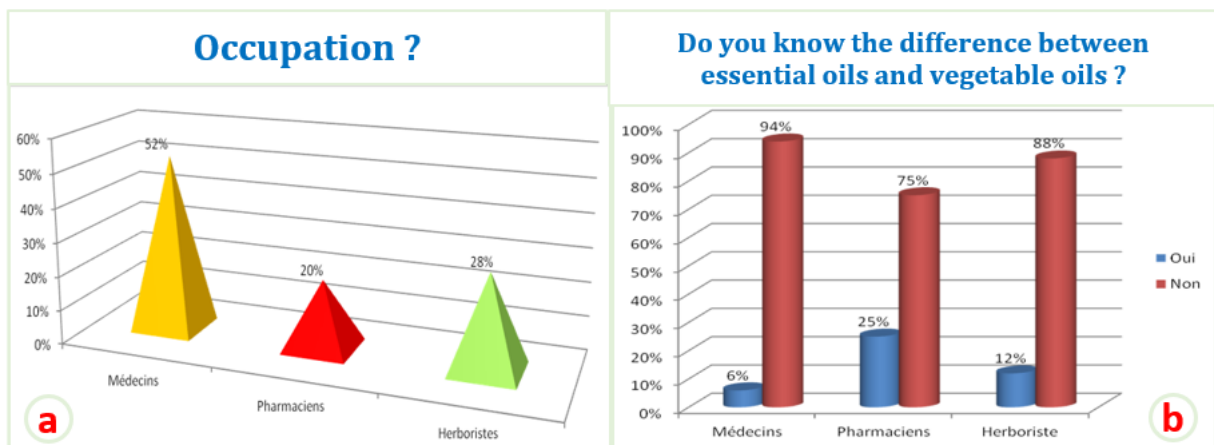
**Figure 2** The role of essential oils and aromatherapy in therapeutics among the general population

### 3.2. Survey for Health Professionals

Sample: 61 individuals: 32 Doctors; 12 Pharmacists and 17 Herbalists.

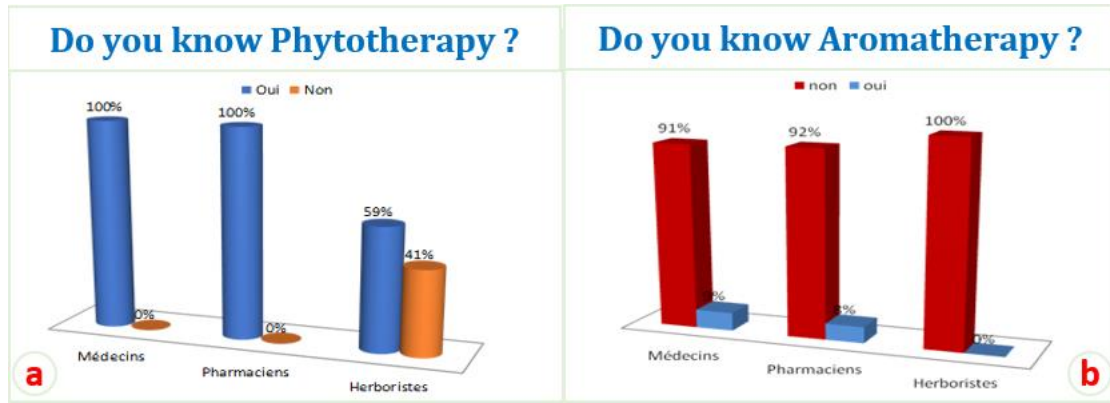
Places and Duration of study: Algiers from 03/10/2016 to 03/16/2016.

Mode of administration: Self administration; Medical offices, Pharmacies, Herbal Products Stores. The results are represented by the following graphs (Figure 3,4)



[(a) Distribution of healthcare professionals surveyed, (b) About the difference between vegetable oil and essential oil.]

**Figure 3** Assessment of healthcare professionals' knowledge in essential oils and aromatherapy

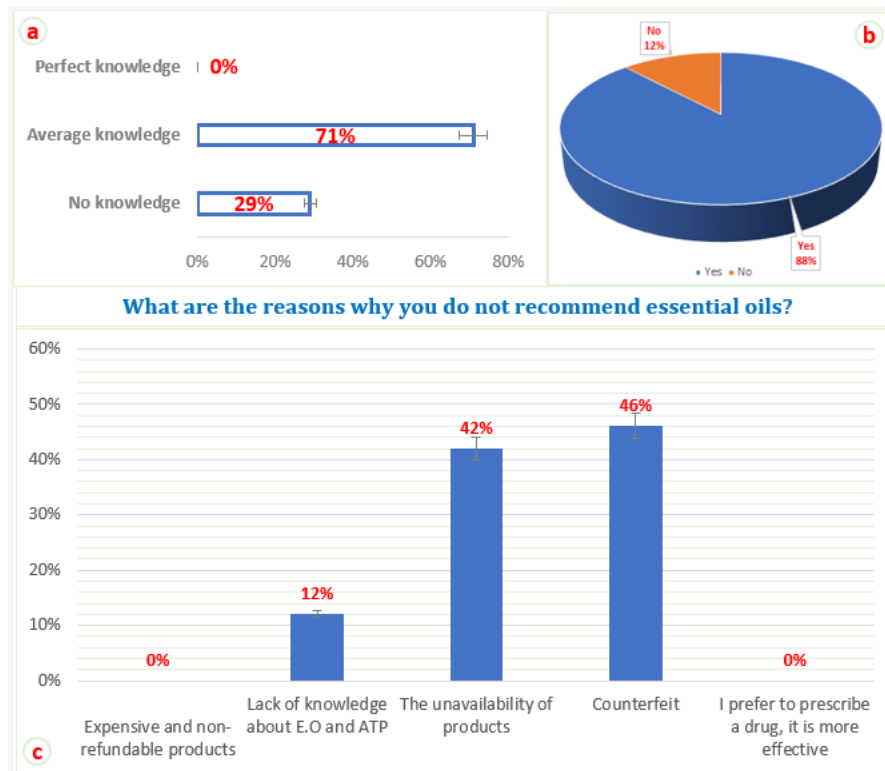


[(a) Knowledge in Herbal Medicine, (b) Knowledge in Aromatherapy.]

**Figure 4** Assessment of healthcare professionals' knowledge in essential oils and aromatherapy

3.2.1. For herbalists

The results are represented by the following graphs (Figure 5)

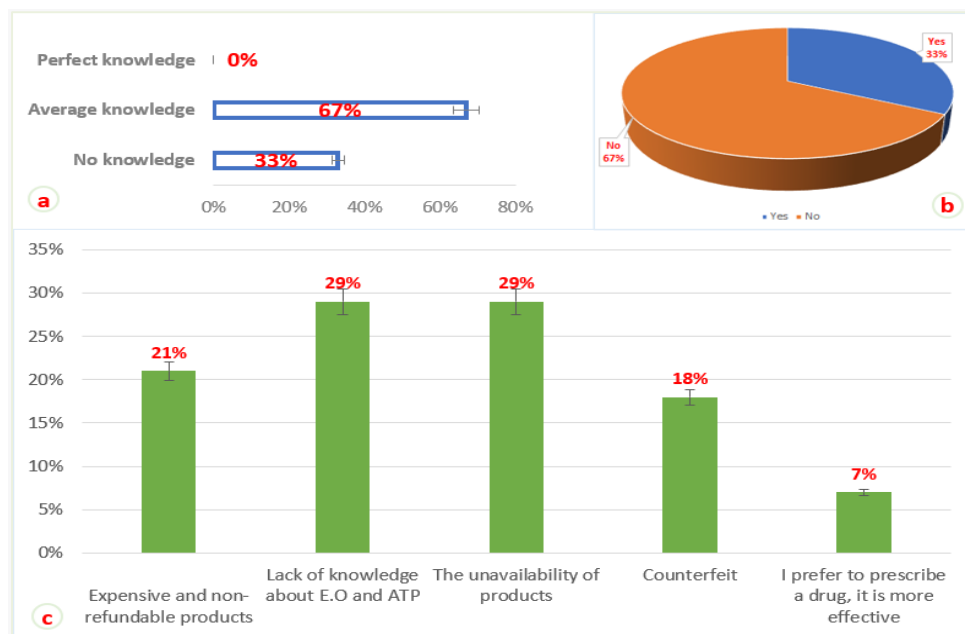


[(a) Quality of knowledge regarding E.O, (b) Frequency of dispensing E.O, (c) Knowledge regarding contraindications of E.O]

**Figure 5** Evaluation of knowledge and practices of herbalists regarding aromatherapy

3.2.2. For pharmacists

The results are represented by the following graphs (Figure 6):

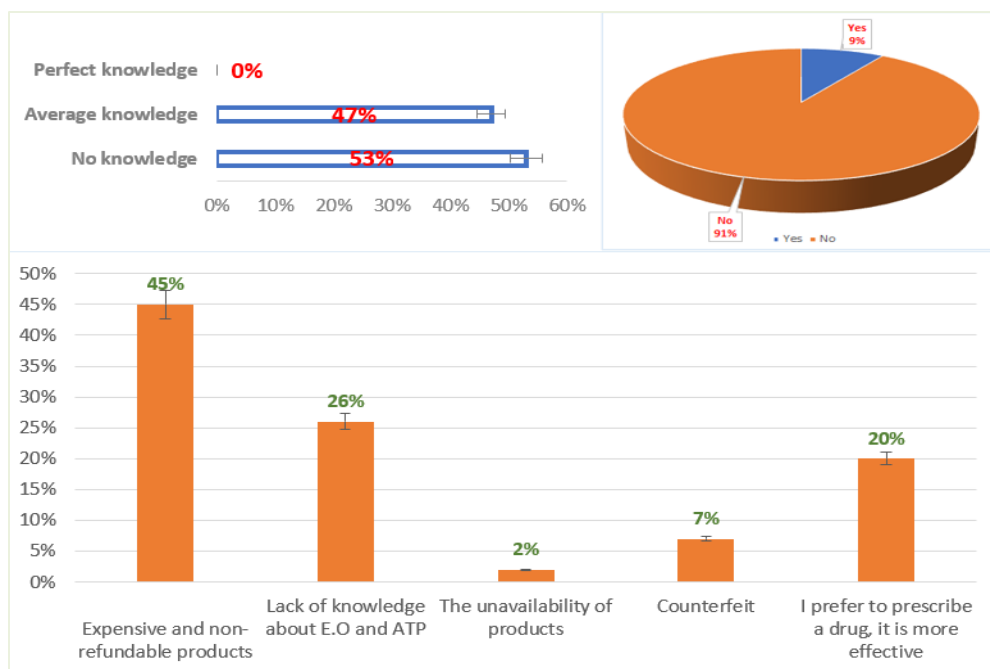


[(a) Quality of knowledge regarding E.O, (b) Frequency of dispensing E.O, (c) Knowledge regarding contraindications of E.O]

**Figure 6** Evaluation of knowledge and practices of pharmacists regarding aromatherapy

### 3.2.3. For physicians

The results are represented by the following graphs (Figure 7)



[(a) Quality of knowledge regarding E.O, (b) Frequency of dispensing E.O, (c) Knowledge regarding contraindications of E.O]

**Figure 7** Evaluation of knowledge and practices of physicians regarding aromatherapy

## 4. Discussion

- The results show that (95%) of the surveyed population use plant-based products in various forms (herbal teas, oils, syrups, etc.) as an alternative to medication; for disease prevention (18%) or treatment (43%), and for relaxation or body care (39%). Participants believe that these products are more effective (>60%) and less aggressive (>82%).

- The study reveals that the term "Aromatherapy" is not common, it is little known among (62%) of individuals, (91%) of physicians, (92%) of pharmacists, and completely unknown among herbalists. However, (>76%) of the surveyed population and all healthcare professionals and herbalists surveyed (100%) appear to know essential oils, and (52%) report having already used them.
- Essential oils are rarely prescribed (9% of physicians) or poorly advised at the pharmacy (33% of pharmacists) due to a lack of knowledge in aromatherapy: (94%) of physicians and (75%) of pharmacists did not know the difference between an essential oil and a vegetable oil!
- Regarding the supply : (42%) of users obtain essential oils from herbalists, which is why (100%) of pharmacists and physicians as well as (>90%) of the public encourage the production of essential oils following manufacturing standards that guarantee their efficacy and safety.

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## 5. Conclusion

This study demonstrates the need to conduct more in-depth surveys targeting populations at risk, such as infants, young children, pregnant women, the elderly, and pathologies where conventional therapy has demonstrated its limitations, such as infections with multi-resistant germs, Alzheimer's disease, or dermatological conditions. It would also be interesting to establish and generalize a guide and good use sheets for essential oils, providing recommendations on their selection, indications, dosage, mode of administration, possible interactions, and toxicity.

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## Compliance with ethical standards

### *Acknowledgments*

We thank the all members of the Pharmacognosy laboratory for the help they gave us in carrying out this work.

### *Disclosure of conflict of interest*

The authors and all co-authors declare that they have no conflicts of interest in connection with this document.

### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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