SCIENCEHOOD

Research Article

Clinical Investigation and Clinical Studies

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Educational Intervention on The Use of Phytotherapy for Insomnia in Elderly Adults

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ABSTRACT

Insomnia is one of the most common sleep disorders among the elderly. Worldwide, the use of medicinal plants has resurfaced as an alternative treatment.

Objective: To describe the results of an educational intervention on the use of phytotherapy for insomnia in elderly patients at Consultation Office No. 13 in Nuevitas, from January 2022 to June 2023.

Methods: An interventional study was conducted with 60 patients from Medical Consultation No. 13 in Nuevitas. A survey was administered to measure knowledge levels before and after the intervention. Variables analyzed included age, sex, knowledge about phytotherapy for insomnia, and knowledge level about medicinal plants for insomnia.

Results: The majority of participants were women and elderly adults aged 71–80 years. At the beginning of the study, participants had a low level of knowledge about phytotherapy for insomnia. However, after the intervention, there was a significant increase in awareness.

Conclusions: The intervention led to an increase in knowledge about the use of phytotherapy for insomnia, benefiting elderly patients by preventing pharmaceutical dependence. This therapeutic modality is more accessible for this population, offering a less harmful and more cost-effective solution by reducing medication expenses. The study can be expanded to other medical offices and nursing homes to enhance healthcare services for this demographic.

KEYWORDS:

insomnia, elderly, phytotherapy, educational intervention

Abbreviations

- **WHO: World Health Organization**
- **TNM: Traditional and Natural Medicine**
- **PHS: Primary Healthcare System**
- **NHS: National Health System**

INTRODUCTION

Insomnia is the difficulty in initiating or maintaining sleep due to persistent hyperarousal over 24 hours. This increased physiological activity, both day and night, prevents sleep even with physical and mental fatigue.

The elderly population is growing worldwide. According to the World Health Organization (WHO), between 2000 and 2050, the proportion of elderly individuals will increase from 11% to 22%.

Diagnosing and treating insomnia in the elderly is challenging for healthcare professionals, as it has a high prevalence in this age group. Emotional disorders such as anxiety and depression are the most frequent causes of insomnia among older adults.

As part of a comprehensive medical approach, Traditional and Natural Medicine (TNM) has emerged. The WHO defines TNM as a collection of knowledge, attitudes, and practices that incorporate plant-, animal-, and mineral-based medicines, manual therapies, spiritual techniques, and exercises to maintain well-being, prevent, diagnose, treat, and rehabilitate physical and mental illnesses.

Due to the importance of TNM and its underestimation in healthcare services, the WHO developed a strategy for 2014–2023 to support member states in promoting its use through regulation and research.

In Cuba, the first acupuncture course for doctors was offered in 1962. In 1991, a program was initiated to incorporate the scientific use of medicinal plants, now known as the Medicinal Plants Program. In 1993, Directive No. 8 was issued, regulating the implementation of TNM in the country.

Cuba has had a program for the development and expansion of TNM since 1999, which includes ten regulated therapeutic modalities. By the end of 2018, the number of essential natural products increased from 32 to 153, with 97 produced locally. Additionally, 26 local medicine production centers were established, introducing 837 devices for production and quality control.

Among the alternatives for treating insomnia, TNM includes phytotherapy, one of the oldest, most well-known, and most affordable methods, as it is widely accessible.

Phytotherapy involves the use of medicinal plants—whole or in parts, dried or fresh—either alone or in combinations, as extracts or formulations, to prevent, cure, or alleviate illnesses.

The implementation of phytotherapy aligns with WHO recommendations to legitimize traditional medicines and integrative practices. Phytotherapy is a valuable therapeutic alternative for primary healthcare due to its effectiveness, low cost, ease of access, and cultural compatibility. However, elderly users are more vulnerable to adverse effects and drug interactions.

In Cuba, where efforts are focused on strengthening the National Health System (NHS) and improving care for the elderly, phytotherapy presents an

opportunity to be integrated into the NHS as a preventive measure.

Given Cuba's aging population, with an average life expectancy of approximately 77 years, it is recommended that TNM techniques and procedures be used for this group to improve their quality of life.

Healthcare professionals should work to incorporate phytotherapy into the Primary Healthcare System (PHS), prioritizing disease prevention. Previous studies in Cuba, such as those in Pinar del Río and Arroyo Naranjo, have revealed knowledge gaps regarding phytotherapy, with only 56.4% of respondents regularly using herbal medicines and 36.36% demonstrating a low or inadequate knowledge level.

For these reasons, a study was conducted to implement an educational intervention aimed at increasing knowledge about phytotherapy for insomnia among elderly patients at Medical Consultation No. 13 in Nuevitas from January 2022 to June 2023.

METHODS

An educational intervention study was conducted to increase knowledge about the use of phytotherapy for insomnia among elderly patients at Medical Consultation No. 13, part of the Francisco Peña Peña Polyclinic in Nuevitas, Camagüey, from January 2022 to June 2023.

Study Population

The study included 60 elderly patients diagnosed with insomnia from the specified healthcare area, based on the following criteria:

- **Inclusion Criteria:**
  - Elderly patients aged 60 and older diagnosed with insomnia.
  - Patients whose families supported the use of phytotherapy.
  - Patients living in the healthcare area.
  - Patients mentally fit to participate.
  - Patients who voluntarily agreed to participate.
  - Patients who attended at least 80% of the scheduled educational activities.
- **Exclusion Criteria:**
  - Patients unwilling to participate in the study.

Study Phases

The study was conducted in three phases: diagnosis, intervention, and evaluation.

- **Diagnosis Phase:**
  - A list of patients, including names, ages, and addresses, was compiled.
  - Home visits were conducted to explain the study's characteristics.
  - Patients who consented to participate completed an initial survey (Appendix 1) assessing their general knowledge and initial awareness of phytotherapy for insomnia.
- **Intervention Phase:**
  - A structured educational program covered four topics related to phytotherapy for insomnia.
  - Sessions were held weekly at Consultation Office No. 13 in the afternoons, lasting two hours each.
  - The intervention involved healthcare professionals, including nurses and psychologists.
  - Teaching methods included brainstorming, educational talks, and group discussions.
  - Visual aids and participatory techniques were used to enhance comprehension and engagement.
- **Evaluation Phase:**
  - After the intervention, the initial survey was re-administered to assess knowledge gains.

- Knowledge was categorized as **good** (6–7 correct answers), **moderate** (4–5 correct answers), or **poor** (≤3 correct answers).
- Data were recorded in Microsoft Excel and analyzed using SPSS 15.0.
- Statistical methods included descriptive and inferential statistics, McNemar's test for nominal variables, and the Wilcoxon signed-rank test for ordinal variables.

RESULTS

- **Demographic Data:**
  - A total of 60 elderly adults participated.
  - The predominant age group was **71–80 years (53.3%)**.
  - Women constituted **51.6%** of participants.

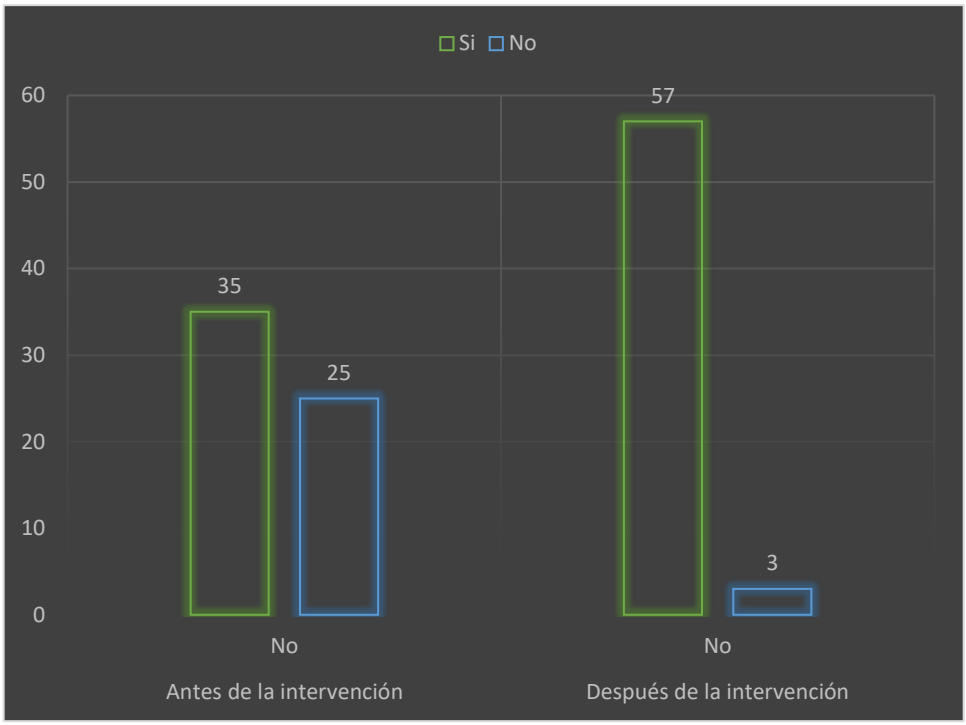
Age Groups	Male	%	Female	%	Total	%
60 to 70 years	6	20.6	15	48.3	21	35.1
71 to 80 years	18	62.0	14	45.1	32	53.3
81 to 90 years	5	17.2	2	6.3	7	11.6
Total	29	48.3	31	51.6	60	100

Table 1. Patients by Age and Sex
Source: Survey

- **Knowledge Before and After the Intervention:**
  - Before the intervention, **only 35** patients were aware of phytotherapy for insomnia. After the intervention, this number increased to **57**.
  - Knowledge about medicinal plants for insomnia improved significantly: before the intervention, **26** patients had poor knowledge, whereas after the intervention, **49** demonstrated good knowledge.0

Knowledge	Before the Intervention	%	After the Intervention	%
Yes	35	58.3	57	95
No	25	41.7	3	5
Total	60	100	60	100

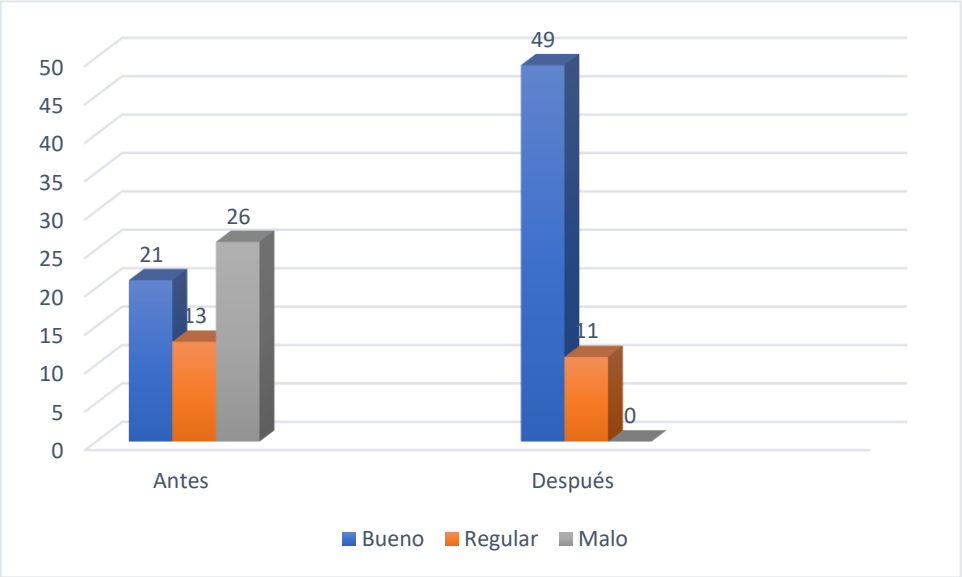
Table 2. Patients' Knowledge About the Use of Phytotherapy for Insomnia
Source: Survey



Graph 1. Patients According to Their Knowledge of the Use of Phytotherapy for Insomnia
Source: Table 2

Level of Knowledge About Medicinal Plants for Insomnia	Before the Intervention	%	After the Intervention	%
Good	21	35	49	81.6
Average	13	21.6	11	18.4
Poor	26	43.4	0	0
Total	60	100	60	100

Table 3. Patients by Level of Knowledge About Medicinal Plants for Insomnia
Source: Survey



Graph 2. Patients According to Their Level of Knowledge About Medicinal Plants for Insomnia
Source: Table 3

DISCUSSION

An integrative approach to insomnia treatment, combining phytotherapy while reducing the use of anxiolytic medications and benzodiazepines, can improve long-term sleep quality and decrease dependence on healthcare resources.

The WHO's **2023 Health Statistical Yearbook** reports that the elderly population in Cuba is predominantly female, which aligns with our study's findings. Insomnia has been increasing in recent years, affecting this age group disproportionately.

Studies in Cuba and Chile indicate that awareness and use of phytotherapy among elderly individuals vary widely. In our study, only **58.9%** of participants initially knew about phytotherapy, but this increased to **95%** post-intervention.

Phytotherapy's accessibility and affordability make it a viable treatment option, especially given Cuba's resource constraints due to external trade restrictions. Expanding this educational intervention could benefit other medical offices and nursing homes, reducing reliance on pharmaceuticals.

CONCLUSIONS

The educational intervention significantly improved knowledge about phytotherapy for insomnia among elderly patients. The findings support expanding this initiative to other healthcare settings to enhance medical care and reduce pharmaceutical dependence. Phytotherapy is an accessible, cost-effective, and less harmful alternative for elderly patients.

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support.

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CONFLICTS OF INTEREST:

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

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- **Formal Analysis:** Maigret Calderón Cruz.
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- **Validation:** Maigret Calderón Cruz, Julio Michel Arias Manganelly.
- **Writing – Original Draft:** Maigret Calderón Cruz, Aned Hernández Clavijo, Lieter Ailed Vidal Rodríguez, Olenis Alicia Aldana Ramos.
- **Writing – Review & Editing:** Maigret Calderón Cruz, Lieter Ailed Vidal Rodríguez, Olenis Alicia Aldana Ramos.

APPENDICES

I. Introduction

Dear Patient,

Warm greetings. After signing the Informed Consent, you are now part of a study assessing your knowledge about the use of phytotherapy for insomnia. Our goal is to provide future educational resources on treating this condition with phytotherapy.

All information collected will remain confidential and anonymous. We sincerely appreciate your cooperation and encourage you to answer the following questions honestly.

II. General Information

1. **Age:** _____
2. **Gender:** ☐ Female ☐ Male

III. Survey Content

1. Do you know what Traditional and Natural Medicine (TNM) is?
   a) ___ Yes
   b) ___ No
2. Have you ever used phytotherapy to relieve insomnia?
   ☐ Yes
   ☐ No
3. Based on your knowledge, select the medicinal plants that can be used for insomnia (mark with an X):

   ☐ Passionflower
   ☐ Romerillo (Bidens pilosa)
   ☐ Linden (Tilia)
   ☐ Cherimoya (Annona cherimola)
   ☐ Avocado Leaf
   ☐ Ginger
   ☐ Valerian
   ☐ Chamomile
   ☐ Basil
   ☐ Mango Leaf
   ☐ Oregano

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