



5th International Electronic Conference on Medicinal Chemistry

1-30 November 2019

chaired by Dr. Jean Jacques Vanden Eynde

sponsored by



pharmaceuticals

Consumption of medicinal plants for Central Nervous System (CNS) disorders among university students in the Community of Madrid

Marta Sánchez *, Elena Gonzalez, Irene Iglesias, Rafael Lozano and Pilar Gómez-Serranillos

Department of Pharmacology, Pharmacognosy and Botany, Faculty of Pharmacy,
University Complutense Madrid, Madrid, Spain



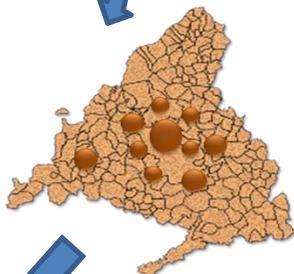
* Corresponding author: martas15@ucm.es

Consumption of medicinal plants for central nervous system (CNS) disorders among university students in the Community of Madrid

Graphical Abstract



shutterstock.com • 658310839



ENCUESTA CONSUMO Y CONOCIMIENTO DE PLANTAS MEDICINALES Y PRODUCTOS RELACIONADOS

Las plantas medicinales son aquellas plantas que se utilizan con una finalidad terapéutica. Pueden presentarse en diferentes formas en sus hojas, raíces, inflorescencias, o frutos, entre otras partes, como es el caso de las semillas, frutos, infusiones, etc.

1. Sexo: Mujer Hombre
2. Edad: 18-24 25-34 35-44 45-54
3. Nivel educativo: Educación Primaria Formación profesional Educación superior
4. Lugar de residencia: Código postal: _____
5. Ocupación: Estudiante Trabajador Desempleado Pensionista No contesta
6. ¿Utilizas alguna planta medicinal? Sí No No sé
7. ¿Encuentras con la que consumes alguna medicina? Sí No
8. ¿Por qué utilizas las plantas medicinales con fines terapéuticos? (solo en una opción única)

<input type="checkbox"/> Problemas respiratorios	<input type="checkbox"/> Problemas vasculares (presión, palmas, varices, etc.)
<input type="checkbox"/> Problemas digestivos	<input type="checkbox"/> Problemas de hipertensión (diabético, controlado)
<input type="checkbox"/> Dolor de cabeza/miembros inferiores	<input type="checkbox"/> Controlar azúcar
<input type="checkbox"/> Controlar tensión	<input type="checkbox"/> Controlar colesterol
<input type="checkbox"/> Depresión	<input type="checkbox"/> Otras: _____
9. ¿Cuál planta medicinal o producto a base de plantas utilizas o has utilizado? _____
10. ¿Forma(s) en la que consumes las plantas medicinales:

<input type="checkbox"/> Infusión	<input type="checkbox"/> Crema
<input type="checkbox"/> Aceite esencial	<input type="checkbox"/> Jarabe
<input type="checkbox"/> Pastilla	<input type="checkbox"/> Otros: _____

Gracias por su colaboración.



Abstract:

Anxiety and depression are two of the most common mental disorders of global population. These CNS diseases account for one out of every four consultations in primary health care centers. Medicinal plants consumption has a key role as an effective and safe alternative medicine to treat these CNS alterations.

A cross-sectional descriptive study was carried out to evaluate medicinal plants consumption for CNS disorders among university students aged 18-24 in the Community of Madrid using an *ad hoc* and previously validated survey. Results showed that approximately 47.75% of university students consumed medicinal plants to treat anxiety, 42.53 % to fall asleep and 1.49 % to treat symptoms related to depression. The most common medicinal plants used for these CNS disorders were *Valeriana officinalis* L. (31.33 %), *Passiflora incarnata* L. (5.96 %), *Melissa oficinalis* L. (2.98%) and *Tila* spp. (20.13 %) The most common consumption forms were herbal teas (71.63 %) and capsules (29.09%). These medicinal plants preparations were mainly acquired in pharmacies (51.45%) and supermarkets (39.54%). Finally, regarding risks and precautions, around 40% of university students consider that medicinal plants for CNS disorders are harmless and safety. Chi-squared test was used for statistically analysis.

Keywords: medicinal plants; Comunity of madrid; anxiety and depression



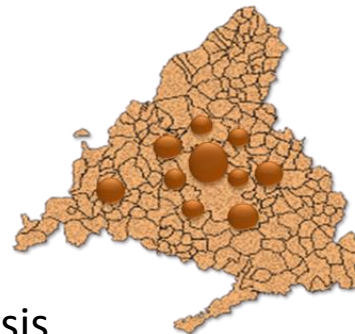
Introduction

- Anxiety and depression are two of the most common mental disorders of global population. These CNS diseases account for one out of every four consultations in primary health care centers.
- Between 1990 - 2013, the number of people suffering from these both diseases increased by around 50%.
- Traditional and complementary medicines are an important and often underestimated part of health, found in almost every country in the world and whose demand is increasing.
- Medicinal plants consumption has a key role as an effective and safe alternative medicine to treat these CNS alterations.
- There is widespread belief among population that herbal products, being of natural origin, are not harmful to health. However, medicinal plants can interact with other drugs and cause side effects.



Material and Methods

- A cross-sectional descriptive study was carried out in the urban area of the Autonomous Community of Madrid



- Face to face interview technique
- Chi-squared test was used for statistically analysis

- A total of 134 participants

- Voluntary, randomly selected and previously informed women and men ≥ 18 years old.

- University centers

ENCUESTA CONSUMO Y CONOCIMIENTO DE PLANTAS MEDICINALES Y PRODUCTOS RELACIONADOS

Las plantas medicinales son aquellas plantas que se utilizan con una finalidad terapéutica. Pueden presentarse en diferentes formas: en bruto (hojas, raíces, inflorescencias...), extractos, aceites esenciales, jarabes, comprimidos, jaleas, infusiones...

1. Sexo: Mujer Hombre

2. Edad: ≤ 24 25-44 45-64 ≥ 65

3. Nivel educativo: Educación básica Formación profesional Educación superior

4. Lugar de residencia: Código postal

5. Ocupación: Estudiante Trabajador Desempleado Pensionista No contesta

6. ¿Utiliza/ha utilizado plantas medicinales? SÍ NO NO SABE

7. Frecuencia con la que consume plantas medicinales: Ocasionalmente Con frecuencia

8. ¿Para qué utiliza las plantas medicinales con fines terapéuticos? (más de una opción posible)

<input type="checkbox"/> Problemas respiratorios	<input type="checkbox"/> Problemas vasculares (como: plantar venozas...)
<input type="checkbox"/> Problemas digestivos	<input type="checkbox"/> Problemas ginecológicos (inflecciones...)
<input type="checkbox"/> Controlar el azúcar	<input type="checkbox"/> Problemas de ansiedad/nerviosismo
<input type="checkbox"/> Estado de ansiedad/nerviosismo	<input type="checkbox"/> Controlar el colesterol
<input type="checkbox"/> Controlar el colesterol	<input type="checkbox"/> Controlar la tensión
<input type="checkbox"/> Depresión	<input type="checkbox"/> Otros <input type="text"/>

9. ¿Qué plantas medicinales o productos a base de plantas utiliza o ha utilizado?

10. Forma(s) en la que consumes las plantas medicinales:

<input type="checkbox"/> Infusión	<input type="checkbox"/> Crema
<input type="checkbox"/> Aceites esenciales	<input type="checkbox"/> Jarabes
<input type="checkbox"/> Pastillas	<input type="checkbox"/>

La encuesta aplicada por correo



Results and discussion



Main use	Answers, n(%)
Anxiety	64 (47.75 %)
Sleep disorder	57 (42.53 %)
Depression	2 (1.49%)
Does not answer	11 (8.20 %)

The most used medicinal plants



Valeriana Officinalis L.



Tilia spp



Melissa officinalis L.



Passiflora Incarnata L.



Results and discussion

Place of acquisition of medicinal plants	Answers, n (%)*
Pharmacy	68 (51.45 %)
Big commercial surfaces	53 (39.54 %)
Herbalist	49 (36.55 %)
Others	10 (7.45 %)
Internet	4 (2.98 %)



*Study participants could mark more than one response



Forms consumption of medicinal plants	Answers, n (%)*
Infusion	96 (71.63 %)
Capsule	39 (29.09%)

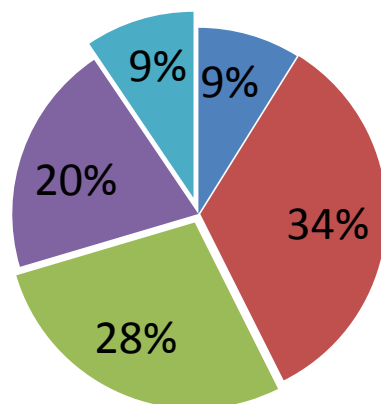


Results and discussion

Do you think that medicinal plants may cause side effects?	Answers, n (%) [*]
YES	58 (43.2%)
NO	63 (47.01%)
Does not answer	13 (9.7%)



Where do you get information about medicinal plants?*



- Doctor
- Pharmacist
- Family/friends
- Internet
- Others

*Study participants could mark more than one response



Conclusions

- ✓ High consumption of medicinal plants, especially by **women** (65.67%)
- ✓ The most common medicinal plants used for these CNS disorders were ***Valeriana officinalis* L. , *Passiflora incarnata* L., *Melissa oficinalis* L. and *Tilia spp***
- ✓ **Pharmacy** is the preferred place for respondents to purchase medicinal herbal products followed by Big commercial surfaces and herbal shops
- ✓ Around 40% of population sampling based study think that medicinal plants are **safe** (no side effects)

