

Research Article

Arnica Montana in Joint Pain in Elder People of UNIESTE* in Lisbon (*Intergenerational University of Estefânia Club)

Filipa Azevedo¹, Henrique Augusto¹, Marco Vieira^{2,4*}, Ana Varela³ and Pascoal Amaral³

¹ESMTC - Lisbon School of TCM, Lisbon, Portugal

²Superior Health School of Viseu, Polytechnic Institute of Viseu, Viseu, Portugal

³Department of Clinical and Research, ESMTC, Lisbon School of TCM, Lisbon, Portugal

⁴Oriental Med Clinics, Viseu, Portugal

Abstract

Introduction: The ageing of the population is responsible for the increase of osteoarticular diseases, linked to pain, joint deformation and functional disability. Because of that, it is emergent to ease the pain, in order to promote a better quality of life to elder people. In TCM (Traditional Chinese Medicine), joint pains are due to a local blockage in circulation, and they are usually associated to a differential diagnosis of Bi syndrome (wind, dampness, cold and heat) or to a combination of these factors. Herbal medicine has been used to “solve” this kind of cases; *Arnica Montana*, specifically, has been used since the XVI century. This plant has a warm nature and a slightly acid and sour flavour, and acts in joint pains and in muscle and bone traumas through the local incensement of Qi and blood circulation. *Arnica* is a natural painkiller that regulates Qi and blood.

Subject of research: The purpose of this study is to answer the subject of research: which are the effects of an *Arnica Montana* oil in joint pains, in the elder community of unieste? (level 4)

Methodology: This pre-experimental, level 4 study, used an *Arnica Montana* oil (3%), applied during 28 days, in elder people, to assess the efficiency of this herb in the relieve of joint pains. The sample is composed by a control group (n=5) and an experimental one (n=5).

*Corresponding author: Marco Vieira, Oriental Med Clinics, Viseu, Portugal, Tel: +351 934282526; E-mail: marcovieiraetc@hotmail.com

Citation: Azevedo F, Augusto H, Vieira M, Varela A, Amaral P (2020) *Arnica Montana* in Joint Pain in Elder People of UNIESTE* in Lisbon (*Intergenerational University of Estefânia Club). J Altern Complement Integr Med 6: 134.

Received: December 17, 2020; **Accepted:** December 21, 2020; **Published:** December 28, 2020

Copyright: © 2020 Azevedo F, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

As a measuring scale, this study used VAS (Visual Analog Scale of pain).

Results: From descriptive analysis, should be noted that experimental and control groups are different, since the control one has an average level of initial pain one level above the one of the experimental group ($\bar{x}=7,2$). In agreement with Wilcoxon, there are significant differences between final and initial pain levels ($p=0,039$) in the experimental group, where we can see improvements of approximately 3 levels of pain ($\bar{x}=4,2$). There wasn't any patient making it out without pain, and the final minimum pain level was equal to 3. In the control group weren't noticed significant differences in pain levels. Spearman correlation analysis has also showed no significant correlation between the difference of initial and final pain and the patient's age and/or the periodicity of oil application.

Conclusion: This research, with a control group (n=5) and an experimental group (n=5), shown that there are disparities between the initial and final levels of pain, in the experimental group, through Wilcoxon test, SPSS (Software Statistical Package Social Sciences), supporting the hypothesis that this herb can be useful in joint pain relieve, in the elder community.

Keywords: *Arnica Montana*; Elder people; Joint pain

Introduction

The ageing of the population is responsible for the increase of osteoarticular diseases, linked to pain, joint deformation and functional disability. The main osteoarticular diseases in elder people are: osteoarthritis, rheumatoid arthritis and gout; these can cause pain and a negative impact in elder's people life. For these reasons, the early recognition and suitable treatment of these diseases are essential to prevent deformities and to maintain the normal functionality and the quality of life of these individuals [1].

In TCM (Traditional Chinese Medicine), joint pains are due to a local blockage of the circulation, and they are usually associated to a differential diagnosis of Bi syndrome (wind, dampness, cold and heat) or to a combination of these factors, once they block Qi and blood circulation, when inside the body [2].

Herbal medicine, for both topical and internal use, has been widely used over the years, to cure these disorders and to help controlling its symptoms. *Arnica Montana* has been used since the XVI century, especially in Russia. It is considered the classic homeopathic herb to treat multiple types of traumas, and it is often employed in arteriosclerosis and by climbing practitioners, to relieve muscular pains and minimize bruises and contusions due to falls [3].

Its topical use is promoted as a useful treatment of inflammation and pain related to bruises, contusions, swelling, rheumatic pains in muscles and joints, and oedemas arising by fractures [4].

Accordingly, to Western medicine, *Arnica Montana* is anti-haemorrhagic, anti-microbial, analgesic, immunostimulant and anti-inflammatory, being indicated to joint pains. For medical purposes,

it is frequently used the extract removed from the dried flowers of the plant [3].

In accordance to TCM, *Arnica Montana* has a warm nature and a slightly acid and sour flavour, which can act in joint pains and in muscle and bone traumas, moving Qi and blood. It is a natural painkiller that also regulates both Qi and blood [5,6].

Previous studies shown the efficiency of *Arnica Montana* gel in cases of mild to moderate knee osteoarthritis [7], applied twice a day, during 6 weeks, and in cases of hand osteoarthritis, in which its effects can be equated to a Nonsteroidal Anti-inflammatory gel (NSAID) [8], making the topical use of this herb indicated to relieve joint pains.

Subject of Research

Which are the effects of an *Arnica Montana* oil, in joint pains, in the elder community of unieste? (level 4)

Methodology

Study type

This project takes us to a pre-experimental study, connected to a level 4 subject of research, which aim to find the effects of an *Arnica Montana* oil in joint pains, in the elder community of UNIESTE.

Experimental draw

$G_c O_1 - O_2 - O_3$
 $G_e O_1 X O_2 X O_3$

Legend

G_c : Control Group
 G_e : Experimental Group
 O_1 : Initial observation (using VAS)
 O_2 : Midterm observation (using VAS)
 O_3 : Final observation (using VAS)
 - : Treatment absence
 X: Treatment
 (application of *Arnica Montana* oil)

Sampling

The population of this study are the elder people with joint pains; the target population are the elder people with joint pains, living in Lisbon. Lastly, the accessible population are the elderly students registered in UNIESTE, with joint pains, living in Lisbon.

This is a non-probabilistic and rational sample, which means the judgement has been used to choose the elements of the sample, in order to obtain the pretended criteria to the present study.

The sample is composed by 10 individuals, allocated in two non-equivalent groups: one control group (n=5), and an experimental one (n=5).

Exclusion / Inclusion Criteria

The people to be included in this study are elder people with joint pains, living in Lisbon and willing to participate in this study.

Therefore, the ones not to be included are people younger than 60 years old, people without joint pains, and people that are currently taking medicines to relieve the pain.

Materials and Methods

Materials

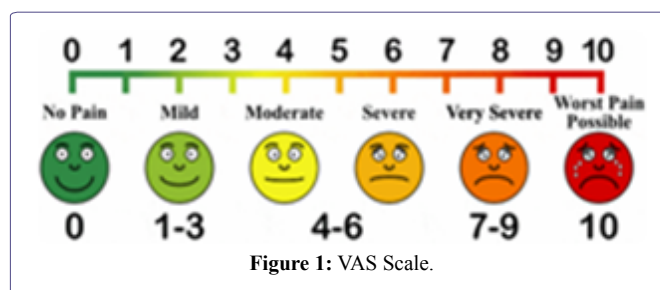
To participant's consent: Informed Consent, Clarified and Freeto Acts/Interventions of Health in the Terms of the Standard n° 015/2013 of the Portuguese General Health Coordination.

To the treatment:

- Almond oil
- *Arnica Montana* essence
- Oil recipients

To collect the data:

Daily control form
 VAS scale (Figure 1)
 Diagnosis form



Methods

- On a proper recipient, join 97 ml of almond oil and 3 drops de *Arnica Montana* essence, to make the dilution
- Divide it by 5 proper recipients
- Diagnose and collect data (age, gender, level of pain)
- Measure with VAS scale, 14 and 28 days after the first observation
- Collect data about the application frequency of the oil

Statistical analysis

The analysis of all the collect data was made informatically, in SPSS (Software Statistical Package Social Sciences), where were performed descriptive analysis to characterize the sample; the Kolmogorov-Smirnov test, to test the normality of the sample; the Wilcoxon test, to compare the averages between the variables on the different moments of observation; and the Spearman Correlation, to compare the averages between the difference $O_3 - O_1$ and the descriptive variables of this sample (Table 1).

Dependent Variables	Independent Variables
Application Frequency	Initial Level of pain (O_1)
Syndrome	Midterm Level of pain (O_2)
Age	Final Level of pain (O_3)
Gender	$O_1 - O_3$
Group	

Table 1: Variables Plan.

Results and Discussion

Sample characterization

This sample presents heterogeneous results in what concerns to the characterization variables (age, group, and syndrome and gender). Because of that, it was not meaningful to analyse these variables and its analysis are not included in this section. Hereupon, what we should highlight from this descriptive analysis, are the differences between experimental and control groups, since the control and experimental averages of initial pain are different.

Results and discussion

In this section will be analysed the normality tests and the ones related to the study variables. In all the statistical testes in this study was used a confidence interval of 95%, with a significance of 0.05.

About the normality of the sample, the Kolmogorov-Smirnov test was performed, concluding that most of the variables have showed a normal distribution, implying the use of non-parametric tests to the data analysis.

As told before, one can notice that control group has an average level of initial pain one level above the one of the experimental group, making these groups not equal among them (Figure 2).

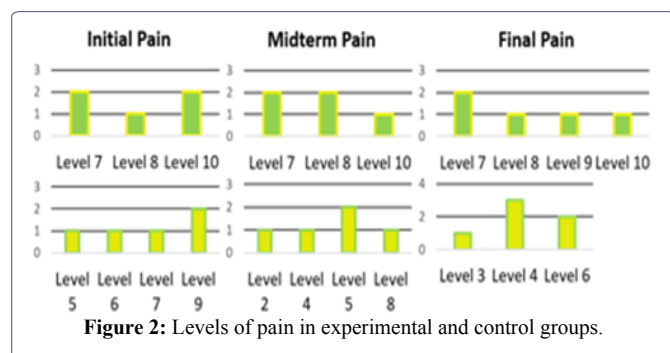


Figure 2: Levels of pain in experimental and control groups.

In agreement with Wilcoxon, there are significant differences between final and initial pain levels ($p = 0,039$) in the experimental group, where we can see improvements of approximately 3 levels of pain. There wasn't any patient making it out without pain, being the minimum pain level equal to 3. In the control group weren't noticed significant differences in pain levels (Figure 3).

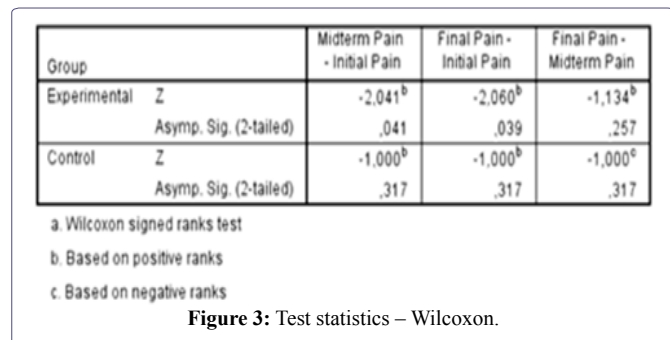


Figure 3: Test statistics – Wilcoxon.

Spearman correlation analysis has showed no significant correlation between the difference of initial and final pain and the patient's age and/or the periodicity of oil application (Figure 4).

Group		N	Min.	Máx.	Average	Std Deviation
Experimental	Initial Pain	5	5	9	7,20	1,789
	Final Pain	5	3	6	4,20	1,095
	Midterm Pain	5	2	8	4,80	2,168
	Valid N	5				
Control	Initial Pain	5	7	10	8,40	1,517
	Final Pain	5	7	10	8,20	1,304
	Midterm Pain	5	7	10	8,00	1,225
	Valid N	5				

Figure 4: Descriptive Statistics of Pain Levels.

Conclusion

The next conclusions are based on the present study and in the obtained results in this particular research, through statistical analysis. In order to do that, a sample with 10 individuals was analysed having, as a main goal, to find the answer to the question: "Which Are the Effects of an *Arnica Montana* Oil, in joint Pains, In the Elder Community of Unieste?"

Answering to the question, we may conclude that there is a significant difference between final and initial pain in the experimental group, when compared to the control group, which support the hypothesis that the *Arnica Montana* oil (3%) can be an adjunct therapy in elder's joint pain.

Although this is only a study of limited treatment and the success conclusions cannot be generalized from them, it is indicative that it would be interesting to carry out more research on this topic.

Conflict of Interest

The authors declare no conflict of interest and no funding source.

References

- Santos F, Bersani ALDF, Moraes NSD (2013) Osteoarticular disease in the elderly. Revista Brasileira de Medicina.
- Gonçalves F (2015) Dores Articulares Segundo a Medicina Chinesa. Cintia e Renato Sanada.
- Lawrence WT, Plastic Surgery Educational Foundation DATA Committee (2003) *Arnica*. Plast Reconstr Surg 112: 1164-1166.
- Kouzi SA, Nuzum DS (2007) *Arnica* for Bruising and Swelling. Am J Health Syst Pharm 64: 2434-2443.
- Ross JA (2010) Clinical Materia Medica - 120 Herbs in Western Use. Estland Press, Seattle, USA.
- Vieira M (2015) Breviário de Medicina Tradicional Chinesa. Causa das Regras, Lisboa, Portugal.
- Knuesel O, Weber M, Suter A (2002) *Arnica montana* gel in osteoarthritis of the knee: an open, multicenter clinical trial. Adv Ther 19: 209-218.
- Ross SM (2008) Osteoarthritis: A Proprietary *Arnica* Gel Is Found to Be as Effective as Ibuprofen Gel in Osteoarthritis of the Hands. Holist Nurs Pract 22: 237-239.



- Advances In Industrial Biotechnology | ISSN: 2639-5665
- Advances In Microbiology Research | ISSN: 2689-694X
- Archives Of Surgery And Surgical Education | ISSN: 2689-3126
- Archives Of Urology
- Archives Of Zoological Studies | ISSN: 2640-7779
- Current Trends Medical And Biological Engineering
- International Journal Of Case Reports And Therapeutic Studies | ISSN: 2689-310X
- Journal Of Addiction & Addictive Disorders | ISSN: 2578-7276
- Journal Of Agronomy & Agricultural Science | ISSN: 2689-8292
- Journal Of AIDS Clinical Research & STDs | ISSN: 2572-7370
- Journal Of Alcoholism Drug Abuse & Substance Dependence | ISSN: 2572-9594
- Journal Of Allergy Disorders & Therapy | ISSN: 2470-749X
- Journal Of Alternative Complementary & Integrative Medicine | ISSN: 2470-7562
- Journal Of Alzheimers & Neurodegenerative Diseases | ISSN: 2572-9608
- Journal Of Anesthesia & Clinical Care | ISSN: 2378-8879
- Journal Of Angiology & Vascular Surgery | ISSN: 2572-7397
- Journal Of Animal Research & Veterinary Science | ISSN: 2639-3751
- Journal Of Aquaculture & Fisheries | ISSN: 2576-5523
- Journal Of Atmospheric & Earth Sciences | ISSN: 2689-8780
- Journal Of Biotech Research & Biochemistry
- Journal Of Brain & Neuroscience Research
- Journal Of Cancer Biology & Treatment | ISSN: 2470-7546
- Journal Of Cardiology Study & Research | ISSN: 2640-768X
- Journal Of Cell Biology & Cell Metabolism | ISSN: 2381-1943
- Journal Of Clinical Dermatology & Therapy | ISSN: 2378-8771
- Journal Of Clinical Immunology & Immunotherapy | ISSN: 2378-8844
- Journal Of Clinical Studies & Medical Case Reports | ISSN: 2378-8801
- Journal Of Community Medicine & Public Health Care | ISSN: 2381-1978
- Journal Of Cytology & Tissue Biology | ISSN: 2378-9107
- Journal Of Dairy Research & Technology | ISSN: 2688-9315
- Journal Of Dentistry Oral Health & Cosmesis | ISSN: 2473-6783
- Journal Of Diabetes & Metabolic Disorders | ISSN: 2381-201X
- Journal Of Emergency Medicine Trauma & Surgical Care | ISSN: 2378-8798
- Journal Of Environmental Science Current Research | ISSN: 2643-5020
- Journal Of Food Science & Nutrition | ISSN: 2470-1076
- Journal Of Forensic Legal & Investigative Sciences | ISSN: 2473-733X
- Journal Of Gastroenterology & Hepatology Research | ISSN: 2574-2566
- Journal Of Genetics & Genomic Sciences | ISSN: 2574-2485
- Journal Of Gerontology & Geriatric Medicine | ISSN: 2381-8662
- Journal Of Hematology Blood Transfusion & Disorders | ISSN: 2572-2999
- Journal Of Hospice & Palliative Medical Care
- Journal Of Human Endocrinology | ISSN: 2572-9640
- Journal Of Infectious & Non Infectious Diseases | ISSN: 2381-8654
- Journal Of Internal Medicine & Primary Healthcare | ISSN: 2574-2493
- Journal Of Light & Laser Current Trends
- Journal Of Medicine Study & Research | ISSN: 2639-5657
- Journal Of Modern Chemical Sciences
- Journal Of Nanotechnology Nanomedicine & Nanobiotechnology | ISSN: 2381-2044
- Journal Of Neonatology & Clinical Pediatrics | ISSN: 2378-878X
- Journal Of Nephrology & Renal Therapy | ISSN: 2473-7313
- Journal Of Non Invasive Vascular Investigation | ISSN: 2572-7400
- Journal Of Nuclear Medicine Radiology & Radiation Therapy | ISSN: 2572-7419
- Journal Of Obesity & Weight Loss | ISSN: 2473-7372
- Journal Of Ophthalmology & Clinical Research | ISSN: 2378-8887
- Journal Of Orthopedic Research & Physiotherapy | ISSN: 2381-2052
- Journal Of Otolaryngology Head & Neck Surgery | ISSN: 2573-010X
- Journal Of Pathology Clinical & Medical Research
- Journal Of Pharmacology Pharmaceutics & Pharmacovigilance | ISSN: 2639-5649
- Journal Of Physical Medicine Rehabilitation & Disabilities | ISSN: 2381-8670
- Journal Of Plant Science Current Research | ISSN: 2639-3743
- Journal Of Practical & Professional Nursing | ISSN: 2639-5681
- Journal Of Protein Research & Bioinformatics
- Journal Of Psychiatry Depression & Anxiety | ISSN: 2573-0150
- Journal Of Pulmonary Medicine & Respiratory Research | ISSN: 2573-0177
- Journal Of Reproductive Medicine Gynaecology & Obstetrics | ISSN: 2574-2574
- Journal Of Stem Cells Research Development & Therapy | ISSN: 2381-2060
- Journal Of Surgery Current Trends & Innovations | ISSN: 2578-7284
- Journal Of Toxicology Current Research | ISSN: 2639-3735
- Journal Of Translational Science And Research
- Journal Of Vaccines Research & Vaccination | ISSN: 2573-0193
- Journal Of Virology & Antivirals
- Sports Medicine And Injury Care Journal | ISSN: 2689-8829
- Trends In Anatomy & Physiology | ISSN: 2640-7752

Submit Your Manuscript: <https://www.heraldopenaccess.us/submit-manuscript>