Original Article

Effect of flower essences in anxious individuals*

Efeito das essências florais em indivíduos ansiosos

Efecto de las esencias florales en individuos ansiosos

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ABSTRACT

Objective: To investigate the effects of the flower essences *impatiens*, *cherry plum*, *white chestnut* and *beech* in anxious people. **Methods:** A quantitative, randomized, double blinded study. Data were collected between May and August, 2010, with 34 employees of the Center for Improvement of Health Sciences of the Zerbini Foundation. Anxiety was assessed using the Diagnostic Inventory of State - Trait Anxiety at two different times, at the beginning and end of the intervention. **Results:** As a result it was observed that the group that used the flower essences had a larger and statistically significant reduction in anxiety level in comparison to the placebo group. **Conclusion:** We conclude that flower essences have a positive effect on the reduction of anxiety.

Keywords: Anxiety; Disease prevention; Integrative medicine

RESUMO

Objetivo: Investigar os efeitos dos florais *Impatiens, Cherry Plum, White Chestnut* e *Beech* em pessoas ansiosas. **Métodos:** Estudo de natureza quantitativa, ensaio clínico randomizado, duplo cego. Os dados foram coletados entre maio e agosto de 2010 com 34 trabalhadores do Centro de Aperfeiçoamento em Ciências da Saúde da Fundação Zerbini. A ansiedade foi avaliada por meio do Inventário de Diagnóstico da Ansiedade Traço - Estado em dois momentos diferentes, no início e final da intervenção. **Resultados:** Como resultado observou-se que o grupo que fez uso das essências florais teve uma diminuição maior e estatisticamente significativa no nível de ansiedade em comparação ao grupo placebo. **Conclusão:** Concluiu-se que as essências florais tiveram efeito positivo na diminuição da ansiedade.

Descritores: Ansiedade; Prevenção de doenças; Medicina integrativa

RESUMEN

Objetivo: Investigar los efectos de los florales *Impatiens, Cherry Plum, White Chestnut* y *Beech* en personas ansiosas. **Métodos:** Estudio de naturaleza cuantitativa, ensayo clínico randomizado, doble ciego. Los datos fueron recolectados entre mayo y agosto del 2010 con 34 trabajadores del Centro de Perfeccionamiento en Ciencias de la Salud de la Fundación Zerbini. La ansiedad fue evaluada por medio del Inventario de Diagnóstico de la Ansiedad Traço - Estado en dos momentos diferentes, al inicio y final de la intervención. **Resultados:** Como resultado se observó que el grupo que hizo uso de las esencias florales tuvo una disminución mayor y estadísticamente significativa en el nivel de ansiedad en comparación al grupo placebo. **Conclusión:** Se concluyó que las esencias florales tuvieron efecto positivo en la disminución de la ansiedad.

Descriptores: Ansiedad; Prevención de enfermedades; Medicina integral

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INTRODUCTION

Anxiety is one of the behaviors that is most related with psychosomatic illnesses. Methods to minimize this type of behavior will certainly help to prevent countless diseases originating in emotional factors.

In databases, few controlled studies were found on floral therapy in anxiety. Thus, this study aims to observe the effects of floral essences on this behavior.

The goal of this research is to strengthen floral therapy as a complementary health practice and to benefit patients with anxious behavior, so that its harmful effects on health can be minimized.

The subjective assessment of a situation and each person's personality characteristics modulate the behavior of that person's reactions to an event. Cognitive assessment processes direct reactions to external factors, according to values, perceptions and beliefs, commitments, thoughts and the environment[1,2].

Any event triggers a psychobiological process that includes a cognitive assessment and the development of a strategy that makes the person capable of decreasing or terminating the feeling of threat and challenge the first assessment provoked, and also of acknowledging his/her inability to control it[3]. Hence, a stimulus internal or external to the subject, interpreted as dangerous or threatening, will trigger an emotional reaction, characterized as a state of anxiety[4].

Different anxiety concepts exist: some authors understand it as a transitory state, characterized by unpleasant feelings of tension and apprehension. They consider individual differences in reactions to situations perceived as threatening as a trait of anxiety, with increasing intensity levels[4].

Anxiety is manifested through physiological and psychological alterations. Organic reactions may include tremors, palpitations, vertigo, hyperventilation, nausea, diarrhea, dry mouth, insomnia, weakness and lack of appetite. Behavioral changes include preoccupation, concern, nervousness, tension and apprehension and can appear even if no actual threat is identified. Thus, other people may consider it disproportional to the intensity of the emotion[4,5].

Hence, unconscious anxiety tends to be the cause of different illnesses and, when addressed at the level of awareness, these conditions can be avoided.

Some studies show the relation between emotional disorders, like depression and anxiety, and the development and maintenance of pain and other symptoms[6,7]. Others discuss the economic and social burden that results from the combination between anxiety and depression and physical pain symptoms[8,9].

Floral therapy is part of an emerging field of vibrational, non-invasive therapies. Floral essences, made from savage plants, flowers and field trees, treat personality disorders, instead of disorders in physical conditions[10,11]. They intend to harmonize the ethereal, emotional and mental body[12].

According to the Brazilian Association of Homeopathic Pharmacists, floral essence is an integrative health supplement, elaborated based on flowers and other parts of vegetables, minerals and environmental radiations, obtained through the solar, environmental or decoction extraction method, followed by dilution[13].

The energetic potential of flowers supports this therapy. When placed in water, the flowers imprint patterns that correspond to awareness levels[10,11].

The British physician Edward Bach developed the Bach flower remedies in the 1930's. He was born in Moseley, England in 1886[10-12]. In his entire work, Dr. Bach tried to show how health and disease are closely connected with the way a person lives and the need for lifestyle changes[14].

To intervene in anxious behavior, we chose to work with Bach flower remedies, specifically the floral essences Impatiens, White Chestnut, Cherry Plum and Beech. The floral essence Impatiens helps to calm down the soul and develop empathy, delicate feelings and angelical patience. It leads to the acceptance of other people's rhythm and the development of events. White Chestnut essence helps individuals to recover mental rest, interior peace and, consequently, clear ideas and awareness of one's feelings. Cherry Plum makes people gain courage and believe that they are capable of dealing with the challenges of life, overcoming tension and extreme fear. Finally, Beech essence helps critical and intolerant people to open up and enhance their knowledge and self-knowledge potential, consequently putting themselves in the other's place to adopt a more comprehensive and tolerant attitude[10-12,14].

Some studies were found that relate anxiety with floral therapy. One study compared two groups of anxious individuals, one of which received floral remedies and the other placebo. The essence used in that study was the Rescue Remedy, part of the Bach system, which comprises five flowers: Impatiens, Clematis, Star of Bethlehem, Cherry Plum and Rock Rose. A significant decrease in anxiety was found in individuals with high anxiety levels only[15]. In another study, however, which also investigated the effect of Rescue essence on anxiety, no significant difference was observed between the group that used the essence or the placebo[16]. Also, a systematic review was found on the use of Bach flower remedies in psychological problems and pain[17]. The investigated databases were MEDLINE, Embase, AMED and Cochrane Library, for papers published until July 2008. Only four randomized controlled studies that analyzed the efficacy of floral essences and two

retrospective observational studies for safety analysis were included in the review. Three of the randomized studies focused on anxiety and one on hyperactivity disorder. No studies were found that related flower remedies and pain. Based on the review, it could be concluded that the use of floral essences did not offer benefits in comparison with the control group and that these remedies are safe. Most studies used in the review adopted the Rescue Remedy for anxiety. The intervention time ranged from three hours to three months and the number of volunteers between 40 and 110 people. These studies were developed in England, Germany, Israel and the United States[17].

In Brazil, floral therapy has increasingly gained ground. The São Paulo Municipal Government - Law No. 13.717 issued in 2004[18] and the Rio de Janeiro State Government – Law No. 5.471 issued in 2009[19] approved its use in their Health Secretaries.

Among health professions, Nursing was a pioneer in the acknowledgement of integrative and complementary practices. COFEN Resolution 197/1997 (01/19/1997)[20] – establishes and recognizes Alternative Therapies as a professional specialty and/or qualification for nurses.

AIM

The aim of this study was to investigate the effect of the floral essences Impatiens, Cherry Plum, White Chestnut and Beech in anxious individuals.

METHODS

This is a quantitative and double-blinded randomized clinical trial. The research subjects, the analyst of the anxiety measurement instrument (state-STAI)[4] and the statistician did not know which group they belonged to.

This research involved teachers and employees from *Centro de Aperfeiçoamento em Ciências da Saúde da Fundação Zerbini* (CeFACS) between May and July 2010.

Teachers and employees from CeFACS were invited to participate. Out of 62 volunteers, only 34 complied with the inclusion criteria.

The inclusion criteria were: the individual's agreement to participate in the study by signing the Informed Consent Term, self-acknowledgement of having at least five of the following characteristics: anxiety, haste, impatience, irritation, impulsiveness, restlessness, difficulty to relax and intolerance of other people's slower rhythm, nervousness and tension and having a STAI score higher than 34 (moderate anxiety).

Today, there are many reasons for anxiety manifestations. Hence, the final two requirements were due to the fact that the authors included individuals with anxiety as a personality trait and not as a state-behavior.

Approval for the research project was obtained at the University of São Paulo School of Nursing Research Ethics Committee (Process No. 889/2010/CEP-EEUSP).

The research was disseminated through posters and a meeting. Participation in the meeting was optional, when the volunteers received orientations and clarifications. Those who accepted to participate in the study signed the Informed Consent Term. On the occasion, it was underlined that any individuals who received placebo and wanted to receive the floral essences used in the research could get these at the end of the experiment.

An interview was held with each participant to complete the clinical form and the STAI Trait Anxiety Inventory. Only individuals who complied with the inclusion criteria were part of the sample, and were requested to complete the STAI State Anxiety Inventory.

The control and experimental groups were previously randomized through a draft. This resulted in a list of numbers and their groups, as well as flask labels. Next, each group randomly received the flask and orientations were provided on how to use the medication (four drops four times per day).

The research took two months for each participant and all of them attended two further consultations, including the completion of the STAI State Anxiety Inventory at the end of the second month.

The STAI State Anxiety Inventory was used to assess anxiety, comprising two scales to measure two distinct anxiety concepts: State-anxiety (transitory cognitive-effective condition) and Trait-anxiety (personality characteristic). Trait-anxiety represents the individual's personality data, and its scores are less sensitive to changes deriving from environmental situations. State-anxiety refers to a transitory emotional condition and the intensity of state-anxiety scores can vary according to environmental situations and over time. In general, it is characterized by consciously perceived unpleasant feelings of tension and apprehension, and by increased activity in the autonomous nervous system. Alternatives for the Trait-scale are: hardly ever (=1), sometimes (=2), a lot (=3) and almost always (=4). Options for the State-scale are as follows: absolutely not (=1), a little (=2), a lot (=3) and very much (=4). The scale can be applied individually or in group, and should be self-applied. For correction purposes, scores for items 1,6,7,10,13,16 and 19 on the Trait-scale and items 1,2,5,8,10,11,15,16,19 and 20 (1=4, 2=3, 3=2 and 4=1) on the State-scale should be inverted. Next, scores attributed to each item should be added up and the individual's anxiety levels should be classified according to the obtained score: Low – scores between 20 and 34; Moderate – scores between

35 and 49; High – scores between 50 and 64; and Very High – scores between 65 and 80[4].

A third person, expert in floral therapy, trained to correct the STAI and to classify anxiety levels according to the obtained scores, analyzed the anxiety measurement instrument.

Data were processed as absolute figures and percentages; a statistician performed statistical treatment. Both groups were compared regarding the difference between the result measured at the start and end of the treatment. To check for statistical significance, the t-test was performed. Significance was set at 5%. Statistics with descriptive $p < 0.05$ were considered significant.

The first state-STAI score was measured when the volunteer adhered to the research, and the second at the end of the second flask.

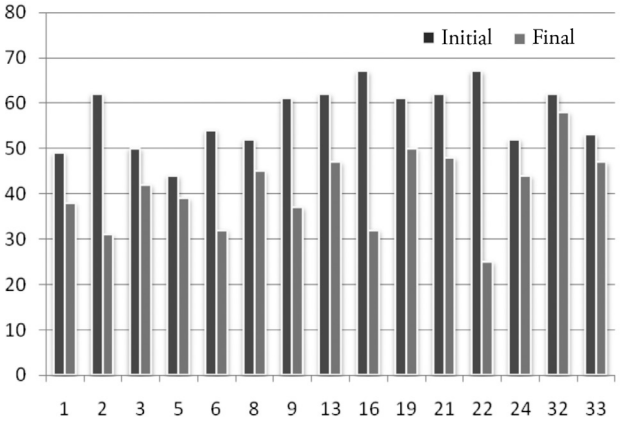
The reliability tests of the State-STAI instruments (Initial and final state-STAI) demonstrated reliability, with Cronbach's alpha corresponding to 0.890 and 0.910, respectively.

RESULTS

Initially, 34 volunteers participated in the intervention, but four of them dropped out, resulting in 15 people in the control group and 15 in the experimental group.

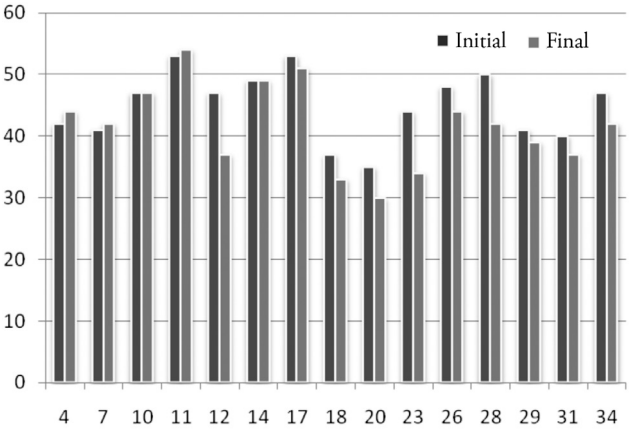
Most participants were female (97.1%) and ages ranged between 25 and 60 years, with 37 years as the mean age. The sample consisted of nursing faculty. The second most frequent occupation was that of administrative agents, followed by pharmacists.

As observed in Graph 1, anxiety levels dropped in all volunteers in the experimental group (100%).



Graph 1. STAI score after floral intervention in the experimental group for the research "Effects of floral essences on anxious individuals". São Paulo, 2010.

In the control group, anxiety increased in three participants (20%), dropped in ten (67%) and remained unchanged in two (13%) (Graph 2).



Graph 2. STAI score after floral intervention in the control group for the research "Effects of floral essences on anxious individuals". São Paulo, 2010.

In both groups, anxiety increased, but the difference between the initial and the final mean State-STAI score corresponded to 16.2 in the experimental group and 3.2 in the control group.

To ascertain the statistical significance of this difference, the t-test was applied, which indicated a significant difference ($p = 0.001$).

Most people (80%) who used the floral essences referred that, even when confronted with stressful events, they managed to stay calm, with clear ideas and concentrated. Others (60%) indicated that they started to feel less irritated and impatient towards situations that normally bothered them. Concerning the physical aspect, the most mentioned differences were improved sleeping pattern (40%), decreased headaches (26.6%) and muscle pain (20%).

DISCUSSION

The decrease in anxiety levels was larger in the experimental group than in the other group, but some people in the latter also showed reduced levels. Literature demonstrates that who receives placebo also tends to get better. This fact can be attributed to the therapeutic moment and to the feeling of being cared for. This improvement cannot be the same as that of the people who received medication treatment with a view to proving the efficacy of the strategy used.

In the literature review, behaviors are described that are attributed to anxious individuals, such as concern, restlessness, impatience, nervousness, tension and apprehension[4,5]. The floral essences that composed the formula used in this study improved those behaviors.

As previously presented, authors suggest, among other measures, the use of Impatiens and Cherry Plum essences for anxious individuals[10-12,14]. Also, most stud-

ies[15-17] on floral remedies and anxiety used the Rescue formula, which comprises five flowers, including Impatiens and Cherry Plum. The researchers also chose these two essences to compose the formula used in this study, reinforcing previous findings.

The essences used are indicated for anxiety conditions in many cases. In this research, a standard formula was elaborated for all anxious patients for the sake of scientific method (randomized clinical trial). The proposal of Floral Therapy, however, is to make personalized formulae, according to the patient's complaints[10-12].

CONCLUSION

After an intervention using floral essences and the analysis of the anxiety measurement instrument's results, a greater drop in anxiety scores was ascertained in the experimental group when compared with the control group, confirming that the Bach floral remedies chosen in this study positively affected the anxiety decrease. The statistical tests demonstrated a statistically significant difference between the two groups.

STUDY LIMITATIONS

The small number of studies on floral remedies and anxiety found in the databases made it difficult to discuss the results found.

Integrative and complementary practices share the holistic perspective and respect for individuality. Research on these practices based on scientifically accepted forms faces the great problem of standardizing the intervention in order to produce quantifiable and comparable results. This deeply infringes on these therapies' philosophy, as the use of the same formula for so different people is not correct, even if all of them suffer from anxiety, like in this study. The scientific method accepted in the West is another frequently discussed factor that hampers research on integrative and complementary practices. These are great challenges that need to be solved with a view to further research on these practices.

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