

# Effect of a body awareness therapy in young healthy.

Efeito da terapia de consciência corporal em jovens saudáveis.

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## Abstract

**Introduction:** Body Awareness Therapy (BAT) can be used in various clinical settings, in both the prevention and rehabilitation, particularly by improving body awareness, aspects of pain and health mind, however, their scientific evidence is still scarce. **Objective:** This study aimed to verify the influence of BAT sessions on body awareness in healthy young adults. **Method:** This is a clinical trial with a sample of young people between 18 and 25, healthy, of both genders, students of the degree course in physiotherapy FCT/UNESP. Data collection occurred in three phases: before the intervention, after the end of 16 sessions (immediate effect) and two months after the latter - follow up (late effect). In general each of these moments data were collected and applied BAQ questionnaire - Body Consciousness Questionnaire. How intervention, 16 sessions of BAT, once a week, lasting 50 minutes was performed. **Results:** The sample consisted of 28 individuals with  $19.85 \pm 1.54$  years, five males and 23 females. There was improvement in the perception of body awareness ( $p < 0.0001$ ), both immediately after about two months after the intervention program. **Conclusion:** We conclude, therefore, that after 16 sessions of BAT, one can observe a significant increase in the perception of body awareness of individuals.

**Key words:** Body Image; Physical Therapy Specialty; Holistic Health.

## Resumo

**Introdução:** A Terapia de Consciência Corporal (TCC) pode ser utilizada em vários cenários clínicos, tanto na prevenção quanto na reabilitação, sobretudo, melhorando a consciência do próprio corpo, os aspectos de dor e saúde mental, no entanto, sua comprovação científica ainda é escassa. **Objetivo:** Verificar a influência de sessões de TCC na percepção corporal de adultos jovens saudáveis. **Método:** Trata-se de um ensaio clínico com amostra composta por jovens entre 18 e 25, saudáveis, de ambos os gêneros, estudantes do curso de graduação em fisioterapia da FCT/UNESP. A coleta de dados ocorreu em três momentos: antes do início da intervenção, após o término de 16 sessões (efeito imediato) e dois meses após esta última - follow up (efeito tardio). Em cada um desses momentos foram coletados dados gerais e aplicado o questionário BAQ - Questionário de Consciência Corporal. Como intervenção, foram realizadas 16 sessões de TCC, uma vez por semana, com duração de 50 minutos. **Resultados:** A amostra foi constituída por 28 indivíduos com  $19,85 \pm 1,54$  anos, sendo cinco do sexo masculino e 23 do sexo feminino. Houve melhora da percepção da consciência corporal ( $p < 0,0001$ ), tanto imediatamente após quanto dois meses após o programa de intervenção. **Conclusão:** Conclui-se, portanto, que após as 16 sessões de TCC, pode-se observar um aumento significativo na percepção de consciência corporal dos indivíduos assistidos por TCC.

**Palavras chave:** Imagem Corporal; Fisioterapia; Saúde Integral.

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## INTRODUCTION

Currently, integrative medicine and complementary therapies seek to focus on the mind body connection in order to increase the physical and mental well-being.<sup>(1)</sup> In the mid of 1970s Dropsy,<sup>(2)</sup> French psychoanalyst, from the perception of muscle tension and respiratory lock as part of the psychological defense of the body,<sup>(3)</sup> developed the system of Body Awareness Therapy (BAT), a tool actuation mind body later described by physiotherapist Roxendal.<sup>(4)</sup>

BAT stands out to stimulate sensory awareness associated with coordination exercises, conscious breathing and attention on internal bodily sensations.<sup>(4-6)</sup> Can be used in various clinical scenarios, in both the prevention and rehabilitation, particularly by improving body awareness, aspects of pain and mental health.<sup>(7)</sup>

The literature on the subject and covers different populations have shown benefits in a variety of pathologies.<sup>(7-10)</sup> However, the scientific evidence is still scarce and BAT has proven crucial for their use as an alternative treatment, especially not results are found in healthy young subjects in order to ascertain which of these expected behaviour opposite the proposed intervention.

The present study aimed to verify the influence of BAT sessions on body awareness in healthy young adults.

## METHODS

### Study design and ethics aspects.

This is a clinical trial conducted at the Laboratory of Estudos Clínicos em Fisioterapia (LECFisio) of Faculty of Science and Technology (FCT) - Faculdade de Ciências e Tecnologia (FCT) - Universidade Estadual Paulista (UNESP), Campus de Presidente Prudente, São Paulo. This study was approved by the Research Ethics Committee of FCT/UNESP (Protocol number 21178113.9.0000.5402) and participants, after reading and agreeing to the procedures, signed the informed consent.

### Sample and selection criteria.

The sample consisted of healthy young university students, of both genders. Selection criteria: Over than 18 years old; be enrolled in the Physical Therapy School of the FCT/UNESP; not present illnesses that prevented them from participating in BAT sessions. There were no losses.

### Assessment Protocol

Data collection occurred in three phases: before the intervention, after the end of 16 sessions (immediate effect) and two months after the last session - follow up (late effect). In each of these moments was applied Body Awareness Questionnaire (BAQ).<sup>(11)</sup>

BAQ questionnaire consists of 18 items and aims

to investigate the self-sensitivity to normal body processes. Evaluates the way an individual note changes in bodily responses (Example: "I notice differences in how my body reacts to different foods"), as the individual provides his or her reactions (Example: "When my exercise habits change, I can accurately predict how it will be affected my energy level"), where the behavior of the sleep-wake cycle (Example: "There seems to be a "better" time to sleep at night ") and the onset of illness (Example: "I realize that I have a fever even without checking my temperature.")<sup>(11,12)</sup>

### Therapeutic Intervention

The BAT program consisted in 16 sessions, held once a week, lasting 50 minutes in a comfortable environment as the light and sound. Verbal conduct during the sessions was performed slowly.

The components of BAT are moving, breathing and massage and uses awareness of the body to promote health and improve body awareness.<sup>(6)</sup> The session aims to reflect on the body and the interrelationship of its parts, its movements, symmetry, equilibrium points of contact with soil, distribution of weight, volume and respiration.<sup>(7)</sup>

These were initiated with a brief moment, where each participant should get in touch with your body and take awareness of it, performed in both standing, sitting or lying, with single or dual exercise.<sup>(6)</sup> In synchrony with exercise awareness, additional features like therapeutic balls, foam rollers and wedges were used to draw attention to a precise location to obtaining greater perception of the requested region.<sup>(7)</sup>

Each session ended with a time group, where each participant shared bodily sensations and feelings experienced during therapy.<sup>(7)</sup>

### Statistical Analysis

Personal data of the sample were expressed by descriptive statistics with mean and standard deviation. Data normality was tested using the Kolmogorov-Smirnov test and then ANOVA was performed with Tukey post-test for comparison of data before and after (immediate and late effects). Significance level of 5% was adopted, and for the analyzes, we used the Graph Pad Prism ® version 5.0 software.

## RESULTS

The sample consisted of 28 healthy individuals with  $19.85 \pm 1.54$  years, five males and 23 females.

Table 1 shows data on the BAQ questionnaire between moments before the intervention and after the intervention on two occasions (immediately after the last session and two months after the same) can be observed. Both immediate effect as late point extremely significant difference ( $p < 0.0001$ ) compared to the time prior to the intervention.

**Table 1.** Mean±standard deviation of BAQ questionnaire value obtained in the before and after the intervention period with 16 sessions of Body Awareness Therapy - immediate and late effects. (n = 28).

	Pre-intervention	Immediate effects	Late effects *	p
Questionnaire	54.1±12.1 <sup>a</sup>	69.0±13.7 <sup>b</sup>	67.1±14.0 <sup>b</sup>	<0.0001**

Note: \*two months of follow up. Different letters in the same row indicate significant differences. \*\* Highly significant value.

Additionally, the qualitative aspect, verbal manifestations were recorded from volunteers who reflect a good acceptance with physical and emotional benefits. We highlight below some phrases reported by the participants at the final moment of the sessions: "After I conduct the sessions I can sleep better." "It is much easier to concentrate to study after the sessions." "During the session is the only time of the week I can relax right, it seems that my energy is recharged for another week." No adverse experiences were reported.

## DISCUSSION

After the 16 session of BAT was possible to observe a significant increase in the perception of body awareness of individuals and this effect was maintained even after two months of intervention.

The improved perception of body awareness in this study ( $p < 0.0001$ ) indicates that the individual has acquired improved perception of the physical and emotional body through the sessions. Corroborating the present study, other authors have also identified positive effects of BAT in different clinical situations, such as anorexia, bulimia, fibromyalgia and chronic pain,<sup>(3,5,13)</sup> on aspects of body awareness, quality of life and everyday attitudes.<sup>(7)</sup>

Moreover, establishing a period of follow up we could confirm this benefit of BAT, because even after two months of the intervention, there was maintenance of the values obtained at the time immediately after the last session. Maintaining this benefit realized in the BAQ

high values may be due to improvement in body relaxation and psychological aspects observed in the final reports of the sessions.

According to the present study, Eriksson *et al*<sup>(14)</sup>, after 24 weeks of BAT in patients with irritable bowel syndrome, identified improvement of psychological symptoms, and normalization of salivary cortisol during the day, supporting the idea that BAT benefits can be detected by stress biochemical markers. Other authors<sup>(15)</sup> add a better managed with increased body awareness and deep knowledge of the body.

Although, other therapeutic modalities are found in the literature which are also used for the improvement of body awareness as meditation,<sup>(16)</sup> Yoga,<sup>(17,18)</sup> Tai Chi,<sup>(19)</sup> Pilates,<sup>(20)</sup> Dance<sup>(21)</sup> and thus corroborate the results of the present study.

This study had limitations as the lack of a control healthy young people not practicing BAT group and a calculation for the sample size. Future studies with such adjustments are suggested in order to prove the BAT benefits on the perception of body awareness.

Finally, BAT proved in this study, a safe technique with good reproducibility, acceptance and understanding by volunteers.

## CONCLUSION

Therefore, it is concluded that after 16 sessions of BAT, could be observed a significant increase in the perception of body awareness of healthy young individuals.

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