Research Article
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Morfoanalitica therapy in quality of life, stress and flexibility of women after breast cancer surgery.

O efeito da terapia morfoanalítica na qualidade de vida, estresse e flexibilidade de mulheres pós-cirurgia de câncer de mama.

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Abstract
Introduction: Breast cancer is a disease with multifactorial causes. From diagnosis to surgical treatment, women with breast cancer experienced severe physical and emotional repercussions that may have an impact on their quality of life, stress and flexibility. **Objective:** The present study aimed to verify the effect of Morfoanalitica Therapy (TM) on quality of life, stress and flexibility after breast cancer surgery in women. **Method:** The study included 10 postoperative women for breast cancer with evaluation of personal and anthropometric data. Then they were invited to answer the questionnaires of the quality of life - SF -36 and the inventory of symptoms of stress (ISS) Lipp. In addition, the functional test for the evaluation of flexibility called bank Wells test and side inclination of the torso were carried out. The questionnaires and functional tests were performed before and after the intervention period, with 16 individual sessions of TM, once a week, during 60 minutes. **Results:** Significant changes after treatment with TM fields, physical (p = 0.0301) and general health (p = 0.0378) of the SF -36 were found. The stress had a significant improvement in phase 1 (p = 0.0424) and phase 3 (p = 0.0348). There were also significant improvements in flexibility at the bank Wells test (p = 0.0024) and ipsilateral lateral (p = 0.0130) and contralateral (p = 0.0039) surgery. **Conclusion:** The intervention with the TM domains showed significant effects on physical aspects and general health quality of life, stress and flexibility of women after breast cancer surgery.
Key words: Psychological Stress; Breast Neoplasms; Quality of Life; Complementary Therapies.

Resumo
Introdução: O câncer de mama é doença de causa multifatorial. A partir do diagnóstico até o tratamento cirúrgico, a mulher com câncer de mama vivencia graves repercussões físicas e emocionais, que podem ter consequências na sua qualidade de vida, estresse e flexibilidade.**Objetivo:** O presente estudo teve como objetivo verificar o efeito da Terapia Morfoanalitica (TM) na qualidade de vida, estresse e flexibilidade de mulheres pós-cirurgia de câncer de mama. **Método:** Participaram do estudo 10 mulheres pós-cirurgia de câncer de mama, com avaliação de dados pessoais e antropométricos. Em seguida, foram convidadas a responder os questionários de qualidade de vida – SF-36 e o inventário de sintomas de estresse (ISS) de Lipp. Além disso, foram aplicados os testes funcionais para avaliação da flexibilidade - banco de Wells e inclinação lateral do tronco. Os questionários e os testes funcionais foram realizados antes e após o período de intervenção, com 16 sessões individuais de TM, uma vez por semana, com duração de 60 minutos. **Resultados:** Encontrou-se modificação significativa após o tratamento com TM nos domínios, aspectos físicos (p=0,0301) e estado geral de saúde (p=0,0378) do questionário SF-36. Quanto ao estresse ocorreu melhora significativa na fase 1 (p=0,0424) e fase 3 (p=0,0348). Também houve a melhora significativa da flexibilidade a partir dos testes do banco de Wells (p=0,0024) e inclinação lateral homolateral (p =0,0130) e contralateral (p=0,0039) a cirurgia. **Conclusão:** A intervenção com a TM apresentou efeitos significativos nos domínios aspectos físicos e estado geral da saúde da qualidade de vida, estresse e flexibilidade de mulheres pós-cirurgia de câncer de mama.
Palavras Chaves: Estresse Psicológico; Neoplasias Mamárias; Qualidade de Vida; Terapias Complementares.

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INTRODUCTION

Breast cancer is a disease with multifactorial causes. From diagnosis to surgical treatment, women with breast cancer experienced severe physical and emotional repercussions that may contribute negatively on their quality of life.[1]

The main postoperative physical changes, such as mastectomy and quadrantectomy, are lymphedema, fibrosis, scar tissue adhesion, myofascial retractions, postural changes,[2] muscle shortening[3] and restricted range of motion of the shoulder and shoulder girdle,[4] and can impair muscle flexibility.[5]

The emotional consequences are initiated after diagnosis, with the fear of death and the procedures that will face. The surgery and the supporting treatments are invasive procedures that cause profound psychosocial impact on patients and their families.[6] The breast in addition to performing physiological role also is a symbol of femininity, sexuality and motherhood.[7] Thus, we highlight the sense of powerlessness in the face of physical mutilation, decreased self-esteem, body image changes[8,9,10,11] and their threatened sense of femininity. [12] The postoperative stress can also arise due to higher vulnerability and need continuous care and confrontations toward full rehabilitation.[13]

The increasing number of cases of breast cancer, it is necessary to introduce more therapeutic resources that can reduce suffering, improve the quality of life and accelerate the recovery process of these women.[14]

Some mind-body practices are used in post-mastectomy women like Yoga[15] Tai Chi Chuan[16] and indirectly Pilates.[17,18] This integration becomes essential for the individual to become aware of your body and take ownership of the cure process.[19] These features, in general, result in the search for human physical and mental well-being, and act directly on the physical state of these women and usually indirectly emotional.

One technique that works directly on the physical/emotional is Morfoanalitica Therapy (TM), which incorporates the adjustment of compensation muscular chains and development of body and sensory awareness, as analytical verbal working in all phases of the session. This global perspective allows us to understand, first the physical manifestation of psychic component and, second the somatization of psychic phenomena.[20]

Despite the clinical practice demonstrate the TM benefits, scientific evidence, critical to their use as an alternative treatment, is still scarce. By integrating the verbal, physical, emotional and sensory work, the MT can meet the demand of these women in their entirety. Thus, the present study aimed to verify the effect of TM on quality of life, stress and flexibility of women after breast cancer surgery.

METHODS

Drawing and ethical aspects

This is a non-randomized controlled clinical trial conducted from September 2012 to October 2013, approved by FCT/UNESP Committee of Ethics in Research (CAAE:03195912.7.0000.5402). All study participants were informed about the objectives and procedures of the same by signing the "Informed Consent".

Population and selection criteria

Approximately 40 women were invited and participated in this study, ten women undergoing surgery for breast cancer referred to the Setor de Ginecologia e Obstetrícia do Centro de Estudos e Atendimentos em Fisioterapia e Reabilitação (CEAFIR) da Faculdade de Ciências e Tecnologia (FCT-UNESP). Inclusion criteria were: postoparetive women for breast cancer, regardless of the type of surgery (mastectomy or quadrantectomy), between zero and 10 years postoperative, with medical consent without metastasis diagnosed and out of phase treatment chemotherapy or radiotherapy. The participants could not be done psychological and physical therapy treatments during interventions.

Procedures

All participants underwent an initial assessment with collecting personal and anthropometric data. Then they were asked to respond to the Brazilian version of the quality of life (QOL) questionnaire - *Medical OutcomesStudy 36-item Short-Form Health Survey* (SF-36) [21], and an inventory of symptoms of stress (ISS) of Lipp[22]. Then the functional tests to assess flexibility test were applied - test with the bank Wells[23] and lateral trunk tilt test[24,25] The questionnaires and functional tests were performed before and after the intervention period. All questionnaires were validated.

The SF-36 is a generic instrument for assessing quality of life, multidimensional, composed of 36 items divided into eight domains: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health issues. Displays scores from zero to 100, where zero corresponds the worst general health and 100 the best of health.[21]

The Lipp ISS aims to identify the level of stress and the presence of physical and/ or psychological symptoms. It consists of three sections, each referring to one of the stages of the stress process. The first table (alert phase) has 15 items and refers to the symptoms of the last 24 hours. The second (the resistance phase) has 15 items related to last week. And the third frame (exhaustion phase) has 23 items corresponding to the last month. Symptoms may recur in other frames, but with different intensities. If the respondent select seven items or more in phase one, it means that it is under

alert if score four or more items in phase two, means that at the stage of resistance and scoring nine items or more in the phase three respondent is in the process of exhaustion.[22]

The bank Wells Sanny ®, grading up to 68 cm was stabilized against a wall to allow its use. For the test, the participants remained seated, with legs straight, feet flat on the bare bank Wells and overlapping hands on the horizontal surface of the seat. Participants were asked to forward flexion of the spine, with the head between the arms without flexing the knees, keeping static from the moment she could position of maximum range of motion.[23] Three measurements were collected, being used to analyze data at the highest value.

The lateral inclination of the trunk was performed with the aim of measuring the distance of the middle finger sliding on the thigh during lateral bending of the spine on both sides. The participant stood upright, with the knees extended, feet on the nominal position. [25] First the appraiser has set the iliac crest participant to prevent movement in the hip. The initial position of the middle finger resting on the thigh was marked with a pen and then the participant was asked to perform a maximum lateral tilt to one side, sliding his middle finger on his thigh, the new position of the finger was marked. Then was measured by means of tape, and recorded the distance in centimeters from the initial position towards the final position of the middle finger in the thigh.[24]

Intervention

The participants underwent 16 sessions of individual TM, once a week, during 60 minutes. These sessions, organized through structured therapeutic setting, do not constitute a fixed and repeatable model, allowing variations according to the therapeutic process of each. Included with body jobs, empathetic touches contact and analysis of body structures of the patient, while the patient verbalize your feelings.

During the session, the first contact between therapist and patient is the name of Spontaneous Reading. This reading allows body awareness, initially without touches with eye contact and verbal patient, and subsequently with touches. First touch with the hand-shoulder with the following list of areas of muscle tension in the body goal, across posterior body muscles, ending with touch hand-abdomen, a place of many archaic symbolism and touched very little.

After the patient was asked to be in a supine position and feel and report their sensations, now at the touch of the floor. The proposed body of work was chosen according to the physical and/or psychological abuse that specific session, because the sessions have the pace and dynamics as a function of time the patient goes through within their therapeutic process.

Postural studies were carried out to stretching of the muscle chains compensation associated with diaphragmatic breathing, massage of superficial and connective tissue, and sensory experiences of body awareness, concomitant with the analytical verbal working in all phases of the session.[20]

The diaphragmatic breathing objective respiratory unlock with body awareness and mobilization of the ribs in order to regain flexibility thorax and dorsal region, in addition to inspiratory muscle lengthening chain. The patient is asked to do diaphragmatic inspiration followed by prolonged spontaneous expiration. The overall postural work, associated with respiratory, allows synergistically stretch all the muscles of the posterior chain. During the performance of this position, the therapist makes use of verbal commands asking the maintenance of alignment and postural corrections necessary.

Standing at the end, the patient is asked to realize the new body search and analysis of the psychological aspects reported by the patient is performed.

All patients were seen only by the researcher to complete training in TM.

Statistical analysis

In all questionnaires used was tested the sample distribution for normality by using the Kolmogorov - Smirnov. For intra-group comparison (before and after treatment) Student's t-test when the data were parametric and Wilcoxon test was performed when data were non-parametric. Analyses were performed using the software GraphPad Prism 5.0 and the significance level was set at 5%.

RESULTS

The sample consisted by ten postoperative women for breast cancer. Five women underwent to radical mastectomy, two women had on the right side and three women on the left and five women underwent to quadrantectomy, three women from the right side and two women had on the left. Two women not previously underwent to chemotherapy and radiotherapy.

Regarding marital status, 80% were married and 20% were divorced. Regarding education, 20% had completed elementary school, 50% had completed high school and 30% had completed higher education.

The characterization of women was performed by descriptive statistics as mean and standard deviation (Table 1).

Table 1. Sample characterization by mean ± standard deviation of post-surgery breast cancer before and after 16 sessions with women Morfoanalitic Therapy.n=10.

Variables	Mean ± standard deviation
Age(years)	53,2±7,72
BMI(kg/m²)	25,99±2,59
Surgery time (years)	5,7±2,94

BMI: Body Mass Index

Regarding the SF-36 scores of the eight domains of quality of life questionnaire are presented in Table 2.

From the data of Table 3, one can observe the mean score of the inventory of symptoms of stress LIPP of participants in each phase analyzed.

It should be emphasized that the participants who were in the later stages also punctuated the early stages. When analyzed individually from the stage at which they were, it can be seen that before the intervention two participants did not present stress, five were in phase 2 and three in phase 3. After interventions six had no stress, two were in phase 2 and two in phase 3.

Data from bank of the Wells flexibility and lateral tilt are shown in Table 4.

Table 2. Mean ± standard deviation and p-value of the domains of the SF-36 women after surgery for breast cancer before and after 16 sessions with MorfoanalíticaTherapy.n=10

Domain	Before	After	p-value
PF	74±25,91	77±26,06	0,2650
RP	47,5±43,22	77,5±34,25	0,0301*
Pain	50,4±23,26	64,4±19,39	0,1609
GH	62,6±18,02	75,9±20,42	0,0378*
Vit	59±18,97	64±27,86	0,4163
SF	68,75±27,16	70±33,43	0,8326
RE	43,33±49,81	50±52,70	0,8646
MH	69,2±13,34	60,4±28,06	0,2572

Note: *p<0,05 (diferença significante). **PF**: physical functioning; **AF**: role-physical; **GH**: general health; **Vit**: vitality; **AS**: social functioning; **AE**: role-emotional; **SM**: mental health.

Table 4. Mean ± standard deviation and p-value tests the Bank of Wells and lateral tilt, expressed in centimeters (cm) before and after 16 sessions of Morfoanalitic therapy. n = 10.

	Bank of Wells	Lateral titl	
		ipsilateral	contralateral
Before	22,06±6,9	13,2±1,61	13,85±1,65
After	24,09±6,67	14,45±2	15±1,92
p-value	0,0024*	0,0130*	0,0039*

*Significant values(p<0,05)

DISCUSSION

This study aimed to verify the effect of MT in physical and emotional aspects on postoperative women with breast cancer, through the assessment of quality of life, stress and flexibility, with improves observable.

There are several instruments to assess quality of life of cancer patients. The SF-36 is a generic instrument to assess quality of life in different pathologies. Furthermore, the SF-36 combines good psychometric properties and good responsiveness.[26]

Interest in the SF-36 in this study is due to the fact that the questionnaire be focused on the impact of disease on quality of life and not in the pathology or clinical signs[27] and it is still used as the gold standard.[28]

In the initial evaluation of quality of life domains physical and emotional aspects of the score was below 50, confirming a study that found similar values for this population.[29]

In this study there was a positive change after TM treatment with the domains of the SF-36: role-physical, which evaluates the limitations on the type and amount of work, as well as how these limitations hamper achievement of work and life activities daily, and general health, which evaluates how patients feel about their overall health. It is believed that the sessions of TM helped in these areas, as it acted consistently in the physical and general health with the overall postural stretching, working on flexibility of the muscles of the posterior chain and consequently the stability of the spine aiding in better performance of the work and activities of daily life the same.

To date have not been found in literature studies assessing quality of life after intervention with MT. However, studies were found evaluating quality of life in breast cancer after intervention with physical activity, with positive effects in the domains general health and pain[30] after hydrotherapy[31] and after application of exercise protocol[32] without observing significant improvement in quality of life. The foremost of these and the proposed study protocol difference is that intervention with MT in addition to working the physical aspect of patient invites the woman to talk about her life story and developing the emotional content.

The postoperative women with breast cancer proved vulnerable to stress at baseline, with 50% of those in the resistance to stress and 30% in the burnout stage. After

Table 3. Mean ± standard deviation and p-value of the inventory scores of stress symptoms Lipp of postmenopausal breast cancer surgery, before and after 16 sessions with Morfoanalitic Therapy. n = 10.

	Before	n	After	n	p-value
Without stress		2		6	
Phase1	4,7±2,9	_	2,8±1,6	_	0,0424*
Phase2	6,0±3,5	5	3,8±3,3	2	0,1092
Phase3	6,0±4,7	3	4,9±3,5	2	0,0348*
***p<0,05**					

treatment with TM, 60% of women showed no stress.

Stress brings together the physical and emotional domains and can be beneficial in moderate doses,[33] but in this study were observed that 80% of participants were in advanced stage of stress. Similar values were found for this population, with 40% in the resistance stage and 20% in the exhaust.[34]

There was a decrease of stress with the TM, both in percentages, as the mean scores of the inventory of symptoms of stress LIPP participating in all phases being significant in stage 1 and 3. It should be emphasized that the participants who were in the later stages also punctuated the early stages.

The TM, with therapeutic psicopostural and analytical approach, allows to adapt and embrace the emerging demands of current conditions, integrating the physical complaints with the life history of the patient.[35] One study looked at stress in women attending a rehabilitation program mastectomies and women related the stress level of those with the influence of their history and way of life, his personality and the generation of cancer[36]. Another study found a significant decrease in levels of stress, with the use of Hatha-Yoga, in 44 women with mastectomies.[19]

Regarding flexibility, the present study found a significant improvement after sessions of TM after surgery for breast cancer women from the bank Wells test and ipsilateral surgery tilt test and contra lateral surgery tilt test. In agreement with these data, a study conducted with 40 women after withdrawal of breast cancer after physical exercises for 16 weeks, found significant improvement ($p < 0.001$) the flexibility of the posterior chain.[37]

Increased flexibility reported in this study shows improvement of muscle stretching. In Brazil, the complementary mind-body therapy is not widespread yet. However, epidemiological studies in the USA and European countries indicate that over 40% of patients with breast cancer reported using complementary therapies.[38,39] In the present study we observed a significant improvement even in the physical and emotional aspects as women after surgery for breast cancer indicating its effectiveness, and perhaps justifying the interest of these patients for complementary therapies.

It is noteworthy that, after completion of the survey, they were directed to a specific group therapy for post-surgery breast cancer women, conducted by the same therapist.

One limitation of this study highlight the lack of theoretical foundation. Thus, we suggest future studies, with a sample size calculation to investigate the role of TM in this population and also in other population.

CONCLUSION

The TM intervention was effective in reducing stress, increasing flexibility of trunk flexion and lateral bending of the trunk and in some aspects of quality of life.

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