

ORIGINAL ARTICLE

Treatment Experience During three Complementary and Alternative Medicine (CAM) Therapies: An exploratory Observational Study

Ami Gupta¹, Sachin Kumar Sharma², Sachin Kumar Tyagi³,
Acharya Balkrishna⁴, Shirley Telles⁵

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ABSTRACT

Introduction: Treatment experience during CAM treatments differs from conventional treatments in the degree to which during treatment (i) mood changes, (ii) patients get involved in treatment and (iii) varied sensations are experienced. These three dimensions of treatment experience were compared during three commonly used CAM treatments used to promote relaxation (i.e., yoga nidra (YN), whirlpool bath (WB), and oil massage (OM) using the Treatment Experience Questionnaire (TEQ).¹

Method: A comparative study was conducted with 45 patients (25 males, 20 females; mean age = 46.27 ± 15.29 years) undergoing one of three therapies (i.e., YN, WB or OM; n = 15 each) at an integrative therapy centre in northern India. Patients completed the TEQ once, immediately after their session.

Result: The three CAM treatments differed with respect to (i) patient involvement in treatment and (ii) sensations experienced (One-way ANOVA, SPSS 24.0). WB required lowest patient co-operation and had highest positive sensations experienced, whereas YN required the most patient co-operation with lowest sensations experienced.

AUTHOR'S AFFILIATION:

¹ Patanjali Research Foundation, Patanjali Yogpeeth, Haridwar, Uttarakhand, India.

² Patanjali Research Foundation, Patanjali Yogpeeth, Haridwar, Uttarakhand, India.

³ Yog Shatkarma and Naturopathy Department, Patanjali Research Foundation, Patanjali Yogpeeth, Haridwar, Uttarakhand, India.

⁴ Patanjali Research Foundation, Patanjali Yogpeeth, Haridwar, Uttarakhand, India.

⁵ Research Consultant, Patanjali Research Foundation, Patanjali Yogpeeth, Haridwar, Uttarakhand, India.

CORRESPONDING AUTHOR:

Shirley Telles, Research Consultant, Patanjali Research Foundation, Patanjali Yogpeeth, Haridwar, Uttarakhand 249405, India.

E-mail: shirleytelles@gmail.com

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Discussion: All three CAM treatments promoted relaxation by improving mood and lowering tension but varied in patient cooperation and positive sensations. Treatment choices should consider a patient's health condition and varied patient participation ability. The study underscores the value of assessing treatment experience to tailor CAM therapies for individuals, despite limitations from a small sample size and diverse health conditions.

Conclusion: In the present exploratory study found differences between the three treatments given to patients with chronic, non-communicable diseases, in (i) patient co-operation required and (ii) positive sensations experienced during treatment. These findings can help select treatments according to the health condition.

KEYWORDS

- Treatment Experience Questionnaire • Yoga Nidra • Oil Massage
- Whirlpool Bath

INTRODUCTION

Understanding patients' treatment experience with complementary and alternative medicine (CAM) treatments is relevant for several reasons. Firstly, several CAM treatments cause a positive mental state.²⁻⁶ Hence the effects of these treatments are considered partially mediated by the changes induced in mood. For example, a state of physical and mental relaxation is considered beneficial to healing and surgical outcomes.⁷⁻⁸ Hence understanding patients' mood during treatment may further the understanding about the treatment.

Secondly, some CAM treatments (e.g., acupuncture or exercise) may be associated with discomfort.⁹⁻¹⁰ Knowledge of the type and extent of discomfort may help improve treatment administration, patient preparation, as well as treatment adherence. Thirdly, an understanding about treatment satisfaction may aid in modifying treatments to maximize satisfaction with treatment. Finally, the assessment of treatment experience can be a useful to regulate quality of treatments to optimize benefits.¹¹

Blasche and others (2013) designed a treatment experience questionnaire exclusively to evaluate CAM treatments with respect to patients' reports about (i) the mental state during treatment (particularly changes in positive/negative mood, calmness/tension, sleepiness/wakefulness and absorption or flow), (ii) requirement of patients' cooperation for successful treatment, (iii) cognitive evaluation of the treatment and (iv) somatosensory and cognitive aspects of treatment experience (including both positive and negative bodily sensations during treatment).¹

Using the treatment experience questionnaire (TEQ),¹ comparisons were made of treatment experience during (i) massage, (ii) relaxation training, (iii) carbon dioxide baths and (iv) group exercise.¹ There were no differences between the treatments in mood, treatment appraisal, and negative bodily sensations; however they differed in positive bodily sensations. Relaxation training and carbon dioxide water baths had the highest scores for positive sensations, followed by massage therapy; whereas group exercise training had the lowest scores for positive bodily sensations.¹ This information could be used to use the treatments selectively for particular disorders.

In India, CAM centres often combine yoga therapy with hydrotherapy and massage¹² to optimize positive mood states. Among several treatments there are three treatments which are given to patients with varied health conditions as they are believed to facilitate physical and mental relaxation. These treatments are *yoga nidra* (YN), whirlpool baths (WB) and oil massage (OM). Separate studies have reported the psycho-physiological effects of each of these treatments, supporting their use to increase mental relaxation.

With respect to massage, using massage for recovery from exercise is well researched, suggesting mild improvements in flexibility and reduced muscle soreness.¹³ Among yoga practices, following two weeks of YN practice daily, healthy adults reported lower stress and better relaxation.¹⁴ WB among external water treatments led to decreased state anxiety with increased well-being were reported beyond the effects due to warm water alone.¹⁵

However, a comparison between the positive and negative effects of YN, WB and OM in a single study has not been reported. Hence the present study was designed to use the TEQ¹ to determine the TEX during these three treatments with respect to (i) the mental state, (ii) positive and negative sensations, (iii) treatment appraisal and (iv) positive and negative bodily sensations.

METHOD

Patients/Setting

Fifty patients with non-communicable

diseases aged between 18 and 74 years (group mean age $\pm$ SD; 46.27 $\pm$ 15.29) participated in the study. The patients were recruited from a wellness centre in northern India by a researcher after briefing them about the study. There was no incentive to take part in the study. The patients were included if they were aged 18 years and above. Patients were excluded if they returned incomplete questionnaires (n=5 excluded from the trial for this reason). Hence the final sample size was forty-five. The baseline characteristics of the patients are given in Table 1. Informed consent was obtained from each patient.

Table 1: Baseline Characteristics of the patients in the three groups (YN, WB and OM)

Characteristics	Total (n=45)	YN (n=15)	WB (n=15)	OM (n=15)	Chi square value	P value
Age (years)						
Group mean age $\pm$ SD	46.27 $\pm$ 15.29	47.87 $\pm$ 12.54	39.8 $\pm$ 13.7	51.13 $\pm$ 17.81		
Age range	18-74	23-65	18-67	26-74		
Age categories, n (%)						
$\leq$ 45	20 (44.44)	5 (25)	9 (45)	6 (30)	2.34	0.31
> 45	25 (55.55)	10 (40)	6 (24)	9 (36)		
Gender, n (%)						
Male	25 (55.55)	9 (36)	15 (60)	1 (4)	26.64	0.001
Female	20 (44.44)	6 (30)	0	14 (70)		
Education level, n (%)						
$\leq$ Intermediate	20 (44.44)	8 (40)	6 (30)	6 (30)	0.72	0.698
> Intermediate	25 (55.55)	7 (28)	9 (36)	9 (36)		
Prior Yoga experience categories in month, n (%)						
Range (in month)	1-480	6-480	8-48	1-300		
$\leq$ 2 Years	10 (22.22)	3 (30)	3 (30)	4 (40)	1.56	0.817
> 2 years	9 (20)	4 (44.44)	2 (22.22)	3 (33.33)		
Three most common health conditions based on ICD 11, n (%)						
Endocrine, nutritional or metabolic diseases	14 (31.11)	4 (28.6)	7 (50)	3 (21.4)	23.812	0.357
Diseases of the digestive system	11 (24.44)	6 (54.5)	1 (9.1)	4 (36.4)		
Diseases of the musculoskeletal system or connective tissue	06 (13.33)	1 (16.7)	2 (33.3)	3 (50)		

Study design

The study was an exploratory observational study aimed at comparing the treatment experiences of three complementary and alternative medicine (CAM) therapies: (i) *yoga nidra* (YN), (ii) whirlpool bath (WB), and (iii) oil massage (OM). Patients recruited for the trial were receiving one of these three therapies at yoga and allied therapies centre. We did not assign patients to any specific therapy or administer any intervention sessions. Since

the study was observational, there was no requirement to register the trial with the Clinical Trials Registry India (CTRI), as registration is not mandatory for observational studies.¹⁶ The treatment experience was evaluated using the Treatment Experience Questionnaire (TEQ). This study was conducted from April to May 2025 and received approval from the Institutional Ethics Committee (IEC) under the reference number PRF/YRD/025/005.

TREATMENTS

Yoga nidra (Relaxation)

During the *yoga nidra* session, participants lay in *Shavasana* with their eyes closed, taking deep breaths for 5-10 minutes. Then they mentally repeated a positive affirmation three times, such as "I am calm and confident." Next, they shifted their awareness through their bodies, starting from the right thumb and moving through various parts to the head. Participants then focused on their natural breath and noticed contrasting sensations to help balance their minds. Guided imagery followed, allowing them to visualize calming scenes like the ocean. The session ended with participants repeating their affirmation three more times and gradually returning to waking awareness, moving slowly to open their eyes.¹⁷ The duration of the therapy session ranges from 35 to 40 minutes.

Whirl pool bath

Whirl pool bath was conducted in a specially designed tub made of fibreglass, with dimensions of 72" x 36" x 28" (Sharma Enterprises, Delhi, India). The tub is equipped with six jets that operate simultaneously at a preset temperature ranging from 30 to 40 degrees Celsius (°C), but adjustable as per convenience of the patients. For the therapeutic bath, the tub is filled halfway with water. Before entering the bathtub, patients are asked to drink a glass of normal water, and a wet towel soaked in cold water is placed on their forehead. Patients are then instructed to enter the bath tub, stepping in, and to lie down in a supine position, with their upper body facing upward and eyes open. Their heads are raised and covered with a wet towel. The tub had applied a constant flow of water through six jets around the body of the patients and feel the bubbles that were generated from the below. The duration of the therapy session ranges from 35 to 40 minutes.

Oil Massage

The massage therapy was conducted on a specialized table measuring 78" x 30" x 32" (Sharma Enterprises, Delhi, India). Participants were instructed to sit with their backs straight. After explaining the procedure, the therapist applied warm oil, as recommended by the physician, to the shoulders and neck with gentle strokes. Participants were then guided to lie down in a supine position, starting on

their left side before transitioning to lie flat on their backs, facing upward, with their eyes closed and normal breathing encouraged. The therapist applied oil to the upper body and performed the massage using bearable pressure on various body parts, then repeated the same steps on the back. The therapy lasted between 15 to 20 minutes, after which participants were instructed to return to a seated position. Finally, a head massage was given in the sitting position before concluding the therapy.

The Treatment Experience Questionnaire, developed by Blasche *et al.* (2013), assesses patients' treatment experiences across three therapy sessions. It comprises three parts: Part A has 16 items measuring emotional states (positive mood, psychological tension, perceived sleepiness, mental absorption), Part B contains 10 items on treatment perceptions (appraisal, cooperation, somatosensory intensity), and Part C includes 14 questions on bodily sensations. Participants rate each item on a 5-point Likert scale from 0 to 4. The questionnaire shows good reliability (0.63 to 0.84) and was translated from English to Hindi by bilingual experts for this study.

Data Analysis: Data was analysed using one way analysis of variance (ANOVA) with SPSS version 24.0. The baseline characteristics of the patients were compared using Chi square test.

RESULTS

Forty five patients aged between 18 and 74 years completed the study. Of these, 15 were assessed for YN treatment, 15 for WB treatment and 15 received OM treatment.

Perceived required cooperation scores of treatment experience questionnaire were significantly higher (F value=34.94, $p < 0.001$, CI: -5.61 - -2.66) in the YN (6.6 ± 0.51) group compared to OM (2.47 ± 2.39) and WB (2.2 ± 1.37).

Positive bodily sensation were significantly higher after WB (14.47 ± 1.68) (F value=9.22, $p < 0.003$, CI: - 4.66 - 0.80) compared to the OM (11.73 ± 2.99) and YN (11.47 ± 1.3) treatment sessions.

The mean and SD values and comparison for TEQ for (i) YN, (ii) WB and (iii) OM are given in Table 2 and Figures 1a, b, and c.

Table 2: Mean, SD and 95% C.I. values for the three sections (A, B, C) of the Treatment Experience Questionnaire (TEQ) for the three groups (YN, WB and OM). The F and P-Values for the One-Way ANOVA are provided in the last two columns to the right

TEQ scores- sections (A,B,C)	Description of the sub domains of TEQ	YN (n=15)	WB (n=15)	OM (n=15)	95% Confidence Interval		F value	P-value
		(Mean $\pm$ SD)	(Mean $\pm$ SD)	(Mean $\pm$ SD)	Lower Bound	Upper Bound		
	Age range (MEAN $\pm$ SD)	47.87 $\pm$ 12.54	39.8 $\pm$ 13.7	51.13 $\pm$ 17.81	-10.26	16.79	2.31	0.11
A	During the treatment							
1	Positive mood	12.33 $\pm$ 2.06	13.6 $\pm$ 2.64	13.6 $\pm$ 2.26	-0.86	3.39	1.47	0.24
2	Psychological tension	0.6 $\pm$ 1.35	1.00 $\pm$ 1.41	1.67 $\pm$ 1.99	-0.4	2.53	1.68	0.2
3	Perceived sleepiness	4.67 $\pm$ 4.08	2.73 $\pm$ 3.22	5.47 $\pm$ 3.29	-2.43	4.03	2.35	0.11
4	Mental absorption (Absorption, detachment)	5.8 $\pm$ 1.66	7.00 $\pm$ 2.24	6.6 $\pm$ 2.59	-1.2	2.8	1.16	0.32
B	Experienced the treatment							
1	Treatment appraisal	11.4 $\pm$ 2.06	10.8 $\pm$ 3.76	11.73 $\pm$ 3.26	-2.5	3.17	0.35	0.71
2	Perceived required co-operation	6.6 $\pm$ 0.51*	2.2 $\pm$ 1.37	2.47 $\pm$ 2.39	-5.61	-2.66	34.94	0.001
3	Perceived somatosensory intensity	9.87 $\pm$ 2.03	9.73 $\pm$ 2.25	10.93 $\pm$ 1.53	-0.72	2.85	1.69	0.2
C	Bodily Sensations							
1	Negative bodily sensations	1.6 $\pm$ 2.03	1.33 $\pm$ 2.44	1.27 $\pm$ 1.79	-2.25	1.58	0.11	0.9
2	Positive bodily sensations	11.47 $\pm$ 1.3	14.47 $\pm$ 1.68*	11.73 $\pm$ 2.99	-4.66	-0.8	9.22	0.003

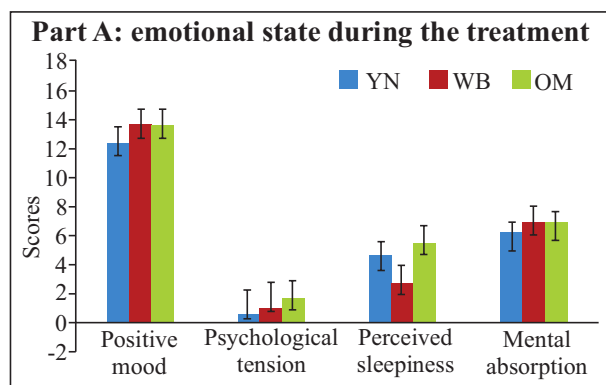


Figure 1a: Comparison of TE during (i) YN, (ii) WB, and (iii) OM

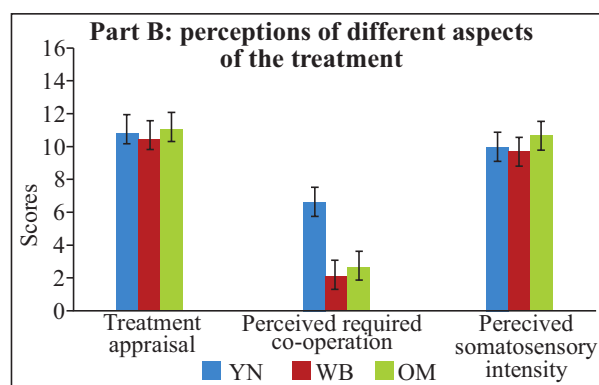


Figure 1b: Comparison of TE during (i) YN, (ii) WB, and (iii) OM

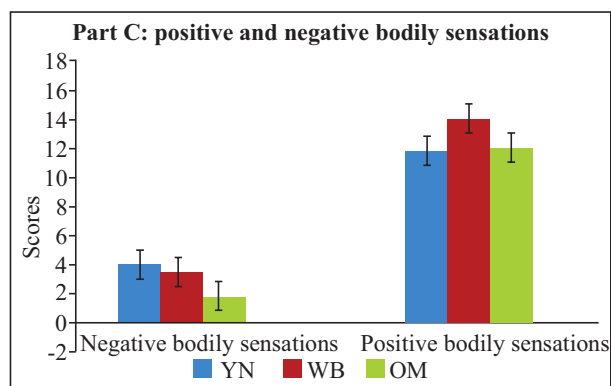


Figure 1c: Comparison of TE during (i) YN, (ii) WB, and (iii) OM

DISCUSSION

After the three treatments patients reported high positive mood scores, moderate scores for

self-absorption and sleepiness, with low scores for psychological tension. Hence all three treatments achieved the aim for which they were intended, viz., to assist patients achieve relaxation and reduce psychological tension. The three treatments differed with respect to perceived level of cooperation needed and positive sensations experienced.

The three treatments assessed here differed in the positive sensations experienced during treatment; highest positive sensations were experienced with WB, while during YN patients reported the lowest positive sensations. The questionnaire used here reported positive sensations such as feelings of snugness, sensuality, weightlessness, warmth and satisfaction.¹ There are certain clinical

conditions where the experience of even positive sensations may be undesirable for the patient. These conditions include neurological hyperesthesia, autism spectrum disorder and attention deficit hyperactivity disorder.¹⁸ Hence in these conditions, CAM therapies such as WB may be substituted by those with less likelihood of increasing sensations experienced during treatment (e.g., YN). Hence monitoring the treatment experience would help determine whether to use treatments which increase positive sensations (e.g., WB in this study) or those which do not increase positive sensations to the same extent.

The three treatments also differed with regard to patient co-operation needed. In certain health conditions it may be best to have minimal patient participation (e.g., debilitating illnesses, patients who are non-responsive or with acute symptoms and pain).¹⁹⁻²⁰ However, for many chronic conditions, patient involvement in their treatment may increase their self-efficacy.^{19,21} Hence the present results suggest that YN (requiring high patient participation) may be preferred in patients with chronic conditions without active symptoms. In contrast in patients with pain but no injuries, OM may be preferred to YN or WB. Since there are some reports supporting the judicious use of massage in pain. A systematic review (SR) of massage therapy for painful conditions rated with moderate certainty that massage therapy was beneficial for pain.²² The use of WB can be decided based on the present results of low patient participation needed along with previous reports of fall injuries.²³

CONCLUSION

In the present exploratory study found differences between the three treatments given to patients with chronic, non-communicable diseases, in (i) patient co-operation required and (ii) positive sensations experienced during treatment. These findings can help select treatments according to the health condition.

The findings are limited by the small sample size (n=15 for each treatment) and the heterogeneity of health conditions.

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Data access statement: Data supporting the research is available.

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