



# Pariṇāma Model: Contextualizing Experiences of Change in Participants of Pilot Study to Determine Efficacy of Individualized Yoga Therapy in Rheumatoid Arthritis and Anxiety

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## Abstract

There is been surge of interest in yoga as a tool to improve health and wellbeing in the last decade or two. There have been a number of research papers that have been published on efficacy of yoga in rheumatoid arthritis offered in a group setting. However, there haven't been any studies offered in an individualized setting. We conducted, first in the UK pilot study at Central Middlesex Hospital, to study the efficacy of individualized yoga therapy in Rheumatoid Arthritis. The present article addresses unique conceptual mechanisms found in our study. In-depth, experiential accounts through feedbacks were completed with 10 patients with Rheumatoid Arthritis along with anxiety and depression. Feedback invited participants to recount their experiences of the intervention, and the service in a hospital setting. Aspects of the experiential accounts pertained to intervention experience and positive benefits were analysed to provide generation of a provisional model of how positive change occurred. The model suggests that distinct, temporal experiences build on each other to generate multiple, positive benefits. This article is an attempt to integrate the precious wisdom of the yoga sutra in a language that can be understood by the western medical profession. As pointed out in yoga sutra text enhanced attentional capacity was important, and it validated the mechanisms of healing proposed by the yoga sutra-s of attunement, empathy, supporting self-care, awareness, introception and experiential learning to states of empowerment, self-discovery and acceptance, which may be central to positive outcomes. Understanding mechanisms of change may help support participant engagement and trust in yoga therapy and enhance participants' ability to apply tools offered within yoga therapy to their daily life.

**Keywords:** Yoga Therapy; Rheumatoid Arthritis; Introception

## Introduction

A number of research studies have found yoga to be effective as a curative and preventative approach to physical and psychological health. However, very little work has been done to study and analyze the experiences of participants by which positive outcomes are secured when delivered to a physical condition such as Rheumatoid Arthritis with psychological impact.

The aim of the pilot was to investigate experiences of Viniyoga® Intervention specifically in terms of acceptability and impact on the patient outcomes. Ten Participants were offered ten one to one Viniyoga® sessions over 16 weeks in a hospital setting in West London. The tools offered were adapted and tailored to individual needs, abilities, context and beliefs. Tools included not only breath focused āsana-s (physical postures); prāṇāyāma (breathing techniques) but also mantra-s, visualizations and yogic counseling. Results of

this found that there was significant reduction in depression, anxiety, pain and improvements in quality of life and general health at post intervention and 12 months ( $p < 0.05$ ) [1]. The qualitative analysis through semi-structured interviews also reported positive outcomes in terms reduction of medications, improved sleep, mood, energy and greater engagement and reengagement in life [1].

Rheumatoid Arthritis is one of the most prevalent inflammatory chronic conditions that not only affects the physical body but also has huge psychological impact leading to depression and anxiety [2,3]. A growing body of research indicates that the stress system, and its interactions with the immune system, plays a pivotal role in the aetiology and progression of rheumatoid arthritis (RA) [4].

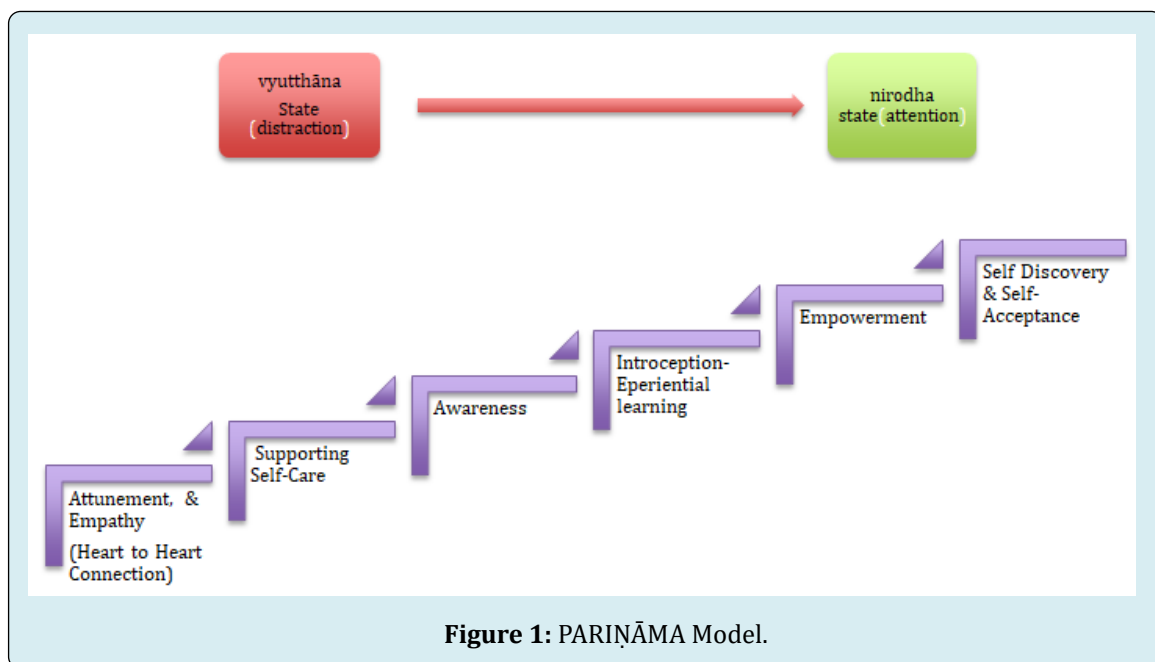
Mechanistic explanations for yoga's potential mental and physical health benefits include down-regulation of the hypothalamic-Pituitary adrenal (HPA) axis and sympathetic nervous system [5-7] that gets activated by stress triggers. Most studies so far have focused on outcomes rather than the process.

This perspective paper aims to bridge this gap and elicit the experiential accounts offered during in-depth feedback of participants taken during follow-up sessions to generate

a model of Change (Pariṇāma) by analyzing the intervention experience and positive benefits experienced by the participants. This article is also an attempt to integrate the precious pearls of wisdom offered in Patanjali yoga sutra in a language that can be understood by the western medical profession as an educational tool on acceptability of the Viniyoga® intervention to manage the current burden of chronic disease.

Participants experiential accounts suggest a clear staged process with a beginning, middle and an end states with shifts and changes occurring in one stage that lead to new forms of patterns of thinking, behaving and experiencing. As presented in the yoga sutra-s chapter III-9-15, mind is capable of two states based on two distinct tendencies. These are distraction (vyuthāna) and attention (nirodha). Participants of this study choose to apply the ability to focus towards attention through the tools offered in the Viniyoga® intervention.

This gives rise to a linear, broadly temporal model (Figure 1) with interdependent relationships. This model proposes that the arising of new experiences were built on previously gained positive insight and experiences leading to *smṛtipariśuddau* as presented in the yoga sutra chapter 1-43.



### Pre Pilot State

SDM or Shared Decision Making was the reason for attending the intervention and National Institute for HealthCare Excellence also recommends SDM for

management of Rheumatoid Arthritis [8]. SDM is the trust between a clinician and patients that requires patients to be involved in the decisions about the interventions they undertake for their chronic condition. The state of trust and safety was the key state that was achieved through trust of the

clinicians in the Viniyoga® intervention which was passed to the participants of the study during recruitment. Ten patients were recruited within ten days. As Patañjali states in the yoga sūtra the essential ingredient for yoga therapy to work is Śraddha (trust) which leads to courage. (YS I.21). Education about Yoga Therapy becomes an imperative future direction for its integration into healthcare system.

### Attunement and Empathy

This was the first and one of the important states that was created with the participants of the study. Participants' feedback provided an insight that early attunement and the empathetic therapeutic relationship created during the first session was even more foundational element for change before awareness and attention was developed. The connection between the yoga therapist and the participants offered a space where they felt safe and non-judged which in turn helped to establish trust and enhance pro-social behaviours.

A heart to heart connection was created resulting in a therapeutic partnership between the patient and therapist. This was the point therapists acknowledged that their stories were real, and there was a genuine interest from the therapist to know what is the story behind the disease and how it manifested. "After our first session, I felt a bit tired but very light. It made me realize that the situation with my mum brings about my anxiety and that I have 'no space' for myself" (P7). Therapist was able to meet the patients at the point where they were and help them move towards change.

Participants also felt heard and listened to which triggered a 'care/healing response'. Research has shown that through detection of safety there is activation of vagal activity, which reduces stress [9] helping to mobilize motivation and offer hope. "Yoga has motivated me to get up in the morning to do my exercise" (P3).

### Supporting Self Care

The second stage of supporting Self-Care captured participants need to legitimize active care for themselves. This was found to be a building block to experience later benefits and was in-fact an on-going process throughout the study and beyond. It has been reported in many studies that people experience a sense of reluctance and guilt for engaging in self-care in diverse context and countries [9-11]. For some, attending the sessions regularly reflected a decision to invest in their own well-being. And for others, a realization of importance of self-care as described by Participant (10) "I never used to walk but now I realize that I am taking care of myself and taking health into my own hands. I rather do something than get a flare".

### Awareness, Introception-Experiential Learning

In our model, supporting Self-Care directly fostered awareness. Participants in our study talked about awareness (of self) and their state of mind and body along with habitual ways of responding. Directing their attention in a sustained (YS1.II) manner towards the tools offered during the Viniyoga® intervention developed an experience of awareness. They developed proprioceptive and introception skills that allowed them to know what they were feeling physically as well as their internal feelings. Evidence has shown that interoceptive sensitivity is correlated with emotional stability, emotion regulation, and emotional intensity (the tendency to experience more extreme emotions with greater awareness and depth of experience) [13-15].

This opened up new choices for response and new ways of being, bringing the fourth stage of change. This new relationship of awareness, proprioception and introception, experiential leaning developed facilitating detection of physiological and psychological stressors and their triggers. "I am quicker in detecting my stress when I see my daughter's room all untidy" (P6). This earlier detection of state of mind when exposed to a stress trigger and practicing new ways to response to conscious new experiences was fundamental part of the intervention. The teachings of friendliness, compassion, equanimity, detachment as taught in the yoga sutra allowed them to engage in different potential for action cognitively, affectively or behaviorally. "I now after seeing her room, go to the lounge, recite few times my mantra given and then return to my daughter and ask her to clean up. We have less blow up's now" (P6). Thus participants expressed both the motivation and ability to apply the "yoga off the mat" across their life to enable them to choose new responses and creating a change. This is shown in our model of experiential learning. Our model also through feedback reported that the dynamic processes whereby as awareness, introception became more routine, so did self-care. These made them interrupt their stress experience with a beneficial activity building resilience.

### Empowerment

Participants reported improved confidence in one's own ability to manage their long-term conditions. This was expressed as evolving over-time, which was supported by experiential leanings and resulted in positive experiences and further self-care. They reported as now having a "new toolbox" to manage their stress triggers and stressful episodes. "I can manage now" (P6). "I no longer feel a victim of my condition" (P9). This empowerment is the fifth stage of change. One of the most important take-away for participants was the new relationship they found with their thoughts that resulted in negative states of being. "I feel tired today and a

bit down but I do not go into overdrive of worry and anxiety as I know now that sometimes I just need to rest and it takes time" (P2). This new ways of observing their own self and their mental chatter was helpful in reappraising emotional and cognitive states. "I still have stress from work and in-laws but I now know to let things go. Not lettings things get to me. No pain when rolling roti's now" (P1). Thus, they were empowered to use the yogic counseling principles of svādhāya (heightened awareness through self-reflection; Y.SII 1.,32) and vairāgyam (detachment; Y.S I.15) leading to a changed state of being empowered.

### Self-Discovery & Self-Acceptance

Through the process of Kriyā Yoga (Y.S II.1), tapas, svādhāya (self-reflection) fostered change overtime. The 'end' state of the participants at the end of study differed from the starting state. After the end of the intervention, participants reported "being at ease with who I am without the tigers around me" (P5). "Medication has dropped. Some pain was there during Diwali time but I am enjoying life." (P2). "Sleep is better as I am at peace for doing my best at my job. There is nothing more I can do" (P9). "Sleeping better and I am aware that when I rush, I get anxious" (P5). "I feel more confident and a lot better now" (P4). "I feel better in myself. I have more energy and my methotrexate has dropped and less pain in my fingers" (P8). Participants reported feeling at peace and calm in the mind as they accepted the ways things are and disconnecting themselves from their pain or their disability. In Y.S 1.33, Patañjali offers the solution for a peaceful mind is a result of mental attitude of upekaṣāṇaām (equanimity). Research has shown that equanimity, defined as an even-minded mental state toward all experiences, internal and external becomes an effective counter to allostatic load following chronic stress [16]. Stress plays an important role in increased inflammation resulting in rheumatic conditions such as Rheumatoid Arthritis.

This provisional model proposes stages of changes, pariṇāma, experienced by the participants of rheumatoid arthritis with anxiety and depression through the Viniyoga@ intervention. This was the first pilot in the UK that has demonstrated both positive qualitative and quantitative results. The in-depth feedback collected during the follow-up sessions suggests that the intervention provided participants tools to change from vyutthāna into nirodhaḥ patterns (Y.S 111.9) of de-automization of negative responses (seen in Introception- Experiential Learning stage), increased confidence in dealing with stressful situations and greater positive emotions (seen in Empowerment, self- acceptance stages). More importantly, Self-Care was foundational in creating these stages of changes. A six months and twelve month questionnaire showed that participants were still engaging in physical, mental and behavioral practices offered

in the active phase of the pilot study.

A number of limitations to this study should be noted. The retrospective narratives produced via the feedbacks in the present study are likely to have involved recollection, reconstruction and co-construction. Thus, the proposed model of change is subjective although we were nonetheless able to identify patterns across participants of experiences of change that are concurrent to Patañjali's yoga sutra-s. In addition, participants had opted in the pilot and feedback because of the belief of the consultant in the intervention, and it is likely that participants were positively biased. However, although this may be seen as a bias in research literature, changing behaviours towards self-efficacy requires changes to beliefs and attitudes in participants [17]. This requires a change in belief from the medical profession towards acceptance of more complementary therapies such as yoga therapy in management of chronic diseases such as Rheumatoid Arthritis, and lastly, this was relatively smaller study and we recommend that this pilot be extended to larger trials. Nonetheless, this provisional model could be used as a teaching tool for yoga therapist to present to multi-disciplinary teams in a healthcare setting especially those working with chronic condition with co-morbidities such as depression and anxiety.

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