

The Role of Bhakti-Yoga Practices in Pain Management: A Hypothetical Review

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Abstract. Bhakti-Yoga which can be understood as the "Path of Devotion", is the path of selfless love and complete devotion with great faith towards a personal Deity or the God. The end goal of this path has been understood to be Moksha or Liberation, as per the scriptures. This blissful path immerses a devotee in Ananda or divine ecstasy, gives inner satisfaction, knowledge and peace. It is believed that various stresses on the physical and mental level get alleviated as the devotees indulge themselves in devotional worship, mantra chanting, rituals, etc. Since Bhakti-Yoga has been told to have such profound effect on the mind, it might prove to be quite helpful for pain management, which we have tried to explore in the present paper based on the previous research. The scriptures give us instructions on the ways to deal with pain. Relief from pain, whether it's mental or physical, has been shown to be possible through devotional practices in various studies. The practices done for Bhakti-Yoga can be helpful in pain management in many ways. Dissociative states of the mind achieved while being immersed in devotional practices seem to work by shifting away the attention from the painful stimuli. Also, the meditative states of mind seen during mantra chanting, congregational prayer sessions, etc. help in lowering stress hormone levels, muscle tension, etc. which alter the ways in which the brain processes pain signals. Likewise, this paper aims to explore and explain hypothetically the way Bhakti-Yoga practices might be useful for dealing with mental and physical pains by reviewing the findings of various studies.

Keywords. Bhakti-Yoga, chronic disease, devotion, prayer, pain, meditation

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PUBLISHED BY

Dev Sanskriti Vishwavidyalaya
Gayatrikunj-Shantikunj, Haridwar, India

OPEN ACCESS

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Introduction

Bhakti Yoga

The path of Bhakti-Yoga is that of love and devotion. This love is usually for an *Ishta-Devata* (or one's favourite Deity) or the *īśvara* (The Supreme God). Bhakti-Yoga, as was told by Swami Vivekananda, is that true and sincere search for the God which starts and continues with love and ends with love. As per the second aphorism of the *Narada Bhakti Sutra*, Bhakti can be defined as, "sā tvasmin paramapremārūpā" which means Bhakti is the divinely supreme love for the *Ishwara* or the God. Similarly, *Shandilya Bhakti Sutra*, in its second aphorism gives the definition of Bhakti as, "sā parā'nuraktirīśvare" which means Bhakti is the supreme attachment or unshakable love for the *īśvara* or the God [1].

Bhakti yoga in simple terms means the yogic path of devotion. It's noteworthy that the inclusion of the word "Yoga" with Bhakti does not mean that the integration of Patanjali's system of Ashtanga-Yoga should be done with the expression of Bhakti. Though the Bhakti-Yoga path might include some elements of the Patanjali's system, it should be understood as a separate path of yoga with its own characteristic practices.

Common practices done in Bhakti-Yoga

There are many practices followed in the path of Bhakti-yoga. The term Bhakti-Yoga is associated with Hinduism, but some of its practices are common to other religions as well. The most common amongst all the religions of the world is prayer, whether it's Hinduism, Islam, Christianity etc. Swami Sivananda tells in his book that praying should be understood as the very first limb of yoga. The preliminary or starting *sādhana* for those on the path of Bhakti-yoga is prayer [2].

In Hinduism, there are many Bhakti-yoga practices commonly done by people as per their devotion and guidance of their Gurus. Prayers (*prārthanā*) are offered at multiple times daily, depending on the devotional inclination of the individual. *Nāma japa* and *mantra japa* are the most common types of *japa* or repetitive chanting of God's names and phrases. *Kīrtana* is the singing of devotional songs and God's names, etc. Ritualistic worship of the God is *pūjā*, which is mostly done daily. Spiritual gatherings of devotees and saints is called *satsanga*. Pilgrimage or *tīrtha yātrā* is visiting holy places like temples, holy rivers, etc. Reading and hearing (*śravaṇa*) of sacred texts for spiritual knowledge and understanding the pastimes of the God. Remembrance of the

God (*smaraṇa*) is meditating on the God. The devotee remembers the Lord in all his actions and always feels His presence by chanting His name. It's said that worldly memories only bring pain or desires, whereas remembering Him brings peace and poise. Service (*sevā*) is the selfless service offered towards the God, mostly in the temples, sacred places, festivals and sacred occasions. Fasting (*Vrata* or *upavāsa*) is commonly done on various festivals and spiritually important days. Other than these, Hinduism scriptures mention many practices which become more relevant with increased devotional inclination.

Bhakti-Yoga in relation to Pain and Healing as per Hindu Scriptures

Devotion for the God has been understood to culminate into liberation of the soul. Ancient scriptures also suggest that Bhakti has the power to relieve misery and pain, which comes in innumerable forms in this materialistic world. Even the journey on this path gives the seeker peace and tranquillity of the mind, because he/she develops a deep sense of security because of the knowledge that the Divine will take care of their problems and well-being. Devotees learn to devote all their actions and hard work to their beloved God, knowing that the end result completely depends on that Supreme reality. In situations where they feel helpless, they remember that their God is always watching over them and will take care of their worries and fears. In the *Bhagwad-Gita*, it has been told in the ninth chapter, *shloka* thirty-one that, "kṣipram bhavati dharmātmā śaśvacchāntiṃ nigacchati / kaunteya prati jānīhi na me bhaktaḥ praṇaśyati //" which tells that devotees become righteous and their mind remains peaceful with Bhakti in their hearts. Also, Sri Krishna gives a promising assurance to His devotees that they will never perish [3]. Similarly, in the twenty-second *shloka* He says, "ananyāścintayanto mām ye janāḥ paryupāsate / teṣāṃ nityābhiyuktānāṃ yogakṣemaḥ vahāmyaham //" which means that for the devotees who worship the God with unalloyed devotion, He will provide what they lack and preserve what they already have [4]. Therefore, as per the ancient scriptures it can be understood that the God promises of preservation, protection and sustenance to his devotees, because of which there will be a sense of relief from mental agonies and worries which keeps them calm and mentally stable whenever they face painful challenges in their life.

The yoga sutras of Patanjali suggest the method of *īśvara prāṇidhāna*, or complete devotion to the *īśvara* in chapter one, sutra twenty-three. *Sādhana* done with devotion for *īśvara* is mentioned to be

that of *japa* of *Aum/Praṇava*. From this, obstacles can be overcome like "*vyādhī*" or physical diseases, "*bhrānti darśana*" or erroneous mental perceptions, "*citta vikṣepah*" or Mental obstacles, etc. So, by the *japa* of *Praṇava* with devotion, mental and physical diseases can be overcome which cause pain and suffering [5].

Swami Vivekananda mentions that healers who make use of devotion and faith are invariably using the *Pratyahara* of the senses (withdrawal of the senses) to overcome and avoid pain [6]. Even though it cannot be encouraged as a substitute for a proper treatment, it will certainly help in cases where anaesthesia or painkillers cannot be given as a part of the treatment to subdue the pain.

In cases of fatal diseases like cancer, where the prognosis is poor and treatment mostly focuses on palliative care, Bhakti-Yoga practices might be helpful. Such conditions require that the patients understand and accept the fatality associated with these diseases, without being afraid and mentally disturbed. Physical pain and mental agony need to be dealt with a stable mind, otherwise the health can further deteriorate. Swami Vivekananda mentions that devotees develop a certain type of attitude towards pain, where they are even able to welcome it. With a complete surrender to the God, devotees start realising that nothing in this world will go against them. Even if they face any painful situations, they realize that it's God-given. Thus, they start welcoming it without complaining. Even if they feel that their death is imminent, they will accept it with a smile and an intense feeling of love because they know that God has finally decided to deliver them from their miseries. Even in that condition their mind remains immersed in God. Whatever may come their way, they welcome it with love. Pain and pleasure start becoming the same with this feeling of intense love [7]. Thus, we see a mental attitude of acceptance along with comfort in fatal diseases.

Materials and Methods

In this paper we have attempted to explain how practices of Bhakti-Yoga can help relieve various physical and mental pains by reviewing the studies related to devotion and healing. This is a hypothetical review study, in which we attempt to explain the possible way Bhakti-Yoga practices help in alleviating pain from a scientific perspective. Search for relevant research papers was done through Google Scholar, PubMed, ScienceDirect and DOAJ. Keywords used were "prayer", "devotion", "bhakti", "bhakti yoga", "pain" to find articles which can be useful for the present study. We tried to include all the articles we

could find, irrespective of their date of publication, since not much work has been done in this area.

Inclusion criteria:

- Only those articles which were available in their full length were included.
- The articles for this review study included devotional practices (like prayer) as its main intervention.
- Since most of the Bhakti-yoga or devotional practices are common in all the religions of the world today, like prayers, chanting, devotional songs, etc. Therefore, we did not try to exclude studies from any particular region or religious faith.

Exclusion criteria:

- Studies which had only yoga or Hatha yoga as interventions were excluded.
- Studies where devotional practice was a part of a bigger yoga intervention were excluded.

Overview of some Physical and Mental Problems where devotional practices were given as interventions

Anxiety and depression

Pain, whether mental or physical, is closely associated to anxiety and depression. It shares a bidirectional relationship with them. Anxiety and depression can lead to pain and suffering. In turn pain can increase anxiety and depression. Thus, they are connected to form a vicious cycle in which each condition can worsen the others [8].

Many studies show the effectiveness of the use of prayers and meditation on the God or the Almighty as per their religious faith. They suggest that patients find solace and mental relief from mentally tormenting conditions of anxiety and depression arising due to various reasons. Often patients undergoing surgical treatment are afraid of getting harmed and feel threatened. A study showed that many of these patients believed that a successful surgical treatment depends on divine intervention or the God from their religious faith [9]. In another study anxiety in the mothers of children with cancer was shown to be decreased by encouraging them for praying. Prayers reportedly helped them in coping during such mentally painful situations [10]. A randomised control trial done for studying the impact of prayer on depression and anxiety showed that participants included

within prayer group displayed statistically significant improvements in both anxiety and depression with an increase in optimism in comparison to the control group. The participants of prayer group maintained these significant improvements at least for a period of one month post the final prayer session [11]. In another randomised control trial study on women undergoing caesarean section postoperative pain, postoperative anxiety, nausea and vomiting frequency decreased by a simple intervention of listening to just twenty minutes of meditative prayer, when compared to a passive control group. Overall studies suggest that prayers and meditation can be quite effective in reducing mental anxiety levels for patients undergoing major surgeries [12]. Another study done in Iran found that patients undergoing surgery feel the need for "divine resilience", supportive interpersonal relationships with others along with a peaceful environment, and "transcendence beyond difficulties" which can arise as per the article only from a spiritual understanding and a "connection with the God". Thus, the author suggests that steps should be taken to fulfil such requirements of the patients by the caregivers and healthcare authorities for providing wholesome surgical care and promoting patients' overall well-being [13].

Postoperative Pain

In a randomised controlled trial with 108 patients who underwent elective Gastrointestinal surgery, they were randomly assigned in a single-blind fashion to either experimental group consisting of analgesics use and praying by reciting God's name (which is called *nāma japa* in Hinduism) versus analgesic use only with no prayers (control group). They were monitored for twenty-four hours postoperatively, in which they noticed that the experimental group had significantly lower pain as compared to the control. Even the use of morphine analgesics was significantly lower in the experimental group. It was also noticed that heart rate, respiratory rate and blood pressure were significantly lower as compared to the control group [14]. A quasi-experimental study reported that various factors like young age, male gender, better mental health and positive type of religious coping contributes to a decrease in postoperative pain levels [15].

Cancer pain

In a randomised control trial study, cancer patients, 76 in number in which 65% were women, the experimental group consisted of analgesics with prayers and religious psychotherapy whereas the control group was given analgesics alone. Significantly

decreased mean pain scores were noted in the experimental group versus controls and significantly improved health in general of the experimental group versus controls compared to the baseline [16].

Chronic pain conditions

Devotional practices have been found to be helpful in coping with chronic pains. In a cross-sectional study conducted in Belgium on more than two hundred chronic pain patients with mixed religious backgrounds it was noticed that praying to God or a higher power improved the pain tolerance and increased frequency of praying was shown to be associated with better pain tolerance. Cognitive positive reappraisals were noticed to increase the positive effects of prayers on pain tolerance in this study. This study suggested that devotional practices combined with proper guidance can prove to be more effective due to the positive reappraisals associated along with it [17].

Nature of the devotional practices

It has been noticed in a study by Meints et al. in 2018 that according to the nature of devotional practices, they have different effects. This study categorised prayers into active and passive types. Active prayers like "God please help me to endure this pain" and passive prayers like "God please take this pain away" have shown to have different effects. Passive prayers just like other passive coping techniques, might be related to decreased pain tolerance. Possibly, passive prayers might be done by people who are already feeling weak from within and probably don't want to put enough efforts to manage their health issues and want only the divine to manage them. Thus, this lack of active involvement might be resulting in their deteriorating condition and poor pain management. In contrast, results suggest that active prayers are associated with better pain tolerance. It might be related to their mental attitudes where active prayers are done by people who are proactive in seeking medical treatment and being optimistic, thus seeking support along with their own efforts to manage the diseases [18]. Another study by Elmholt et al. in 2017 suggests that religious prayers directed to the God are more effective than secular prayers which are not directed to the God. This implies that directing the prayers and other devotional practices to a particular Deity or the God is important, rather than having a plain secular outlook [19]. Although a study done in 2023 by Najem et al. suggests that pain sensitivity and intensity can be reduced effectively irrespective of the type of prayers offered, whether ac-

tive or passive. More studies are thus needed to draw meaningful conclusions in this regard [20].

Possible mechanism of pain management through Bhakti-Yoga practices

The exact mechanism of how Bhakti-yoga practices work is still not clear. Various studies suggest the underlying physiological and psychological processes that contribute to possible explanations for their findings. We have hypothesised here that be-

cause of Bhakti-yoga practices, there can be various changes in the psychological level like stress reduction, enhanced feeling of well-being, induction of dissociative states of the mind like amnesia, absorption, etc. which can further lead to various neurophysiological changes in the body. These changes can contribute to a decrease in pain intensity, increased pain tolerance, decrease in pain unpleasantness, decreased pain related distress, etc along with improvement in the overall health.

This hypothetical mechanism, based on the findings from previous research, has been explained with the help of Figure 1 below.

Psychological impacts of Bhakti – Yoga practices

Improvement in mental well-being

Finding relief through Bhakti-yoga practices like prayers creates a sense of mental well-being. In situations where people feel helpless, they ask the God for help [15]. Many ask for strength to tolerate the painful situations or ask for the divine to take away that pain and suffering. Nevertheless, they feel that they are not alone, and the God is with them always in their difficult times. It's a matter of their "belief", in which they don't seek any external proofs or validation. This psychological attitude of patients where they mentally rely on the divine creates a feeling of being protected which explains the enhancement of mental well-being.

Mental dissociation with devotional practices

A study done in 2013 by Jegindø et al. describes the role of dissociation, which can be understood as a feeling of disconnection from one's surroundings or environment. The management of pain through dissociation might be possible if the mind can be shifted to something more engaging as compared to the painful stimuli. Devotional practices and rituals have the potential to cause dissociative effects on the mind. Dissociative mental states involve four basic subcategories. First is amnesia, in which we can see episodes of partial losses of memory. This might help in temporarily forgetting the traumatic circumstances being faced at that time by a person experiencing amnesia. Second is absorption, which is a state that involves in-depth focus and engagement of the mind, somewhat similar to one-pointedness of meditation. This creates a distracted state of the mind where the attention is redirected, which shifts the focus away from the painful stimuli. Third is depersonalisation which involves the feeling of detachment from one's own self, similar to an outside observer

watching one's body and actions as not their own. This can possibly help in reducing catastrophizing, giving a feeling that they can cope in a difficult situation. This can further help in creating a positive outlook for handling the painful situation. Fourth is derealisation, which involves perceiving the surroundings as unreal, dreamlike and away from reality. This mental state might help in reappraisal of pain by perceiving it as less threatening [21].

Neurophysiological Changes in the body

Changes in the neuronal activity of various regions in the brain

To understand the neuronal mechanisms responsible for pain reduction due to devotional practices, a study was done which demonstrates decreased BOLD (Blood Oxygen Level Dependent) activity in the Parietofrontal regions of the brain. The BOLD signals in fMRI detect the neuronal activity based on the deoxyhemoglobin levels. Pain intensity got reduced by 11% and pain unpleasantness by 26% due to religious prayers. It seems that the mental expectation for the pain to reduce though devotional prayers plays an important role [19].

The medial prefrontal cortex shows an increased activity in response to spiritual and devotional practices. The medial prefrontal cortex is vital for processing of the painful stimuli and is involved in pain modulation along with decrease of pain induced sympathetic activity and reducing facial expressions due to pain [20]. The posterior cingulate of the brain shows decreased activity on meditation, implying that there can be less suffering as a result of the self-referential perception about the pain [22].

Increase in the serotonin levels

Religious or spiritual practices are responsible for an increase in the levels of serotonin. It might be

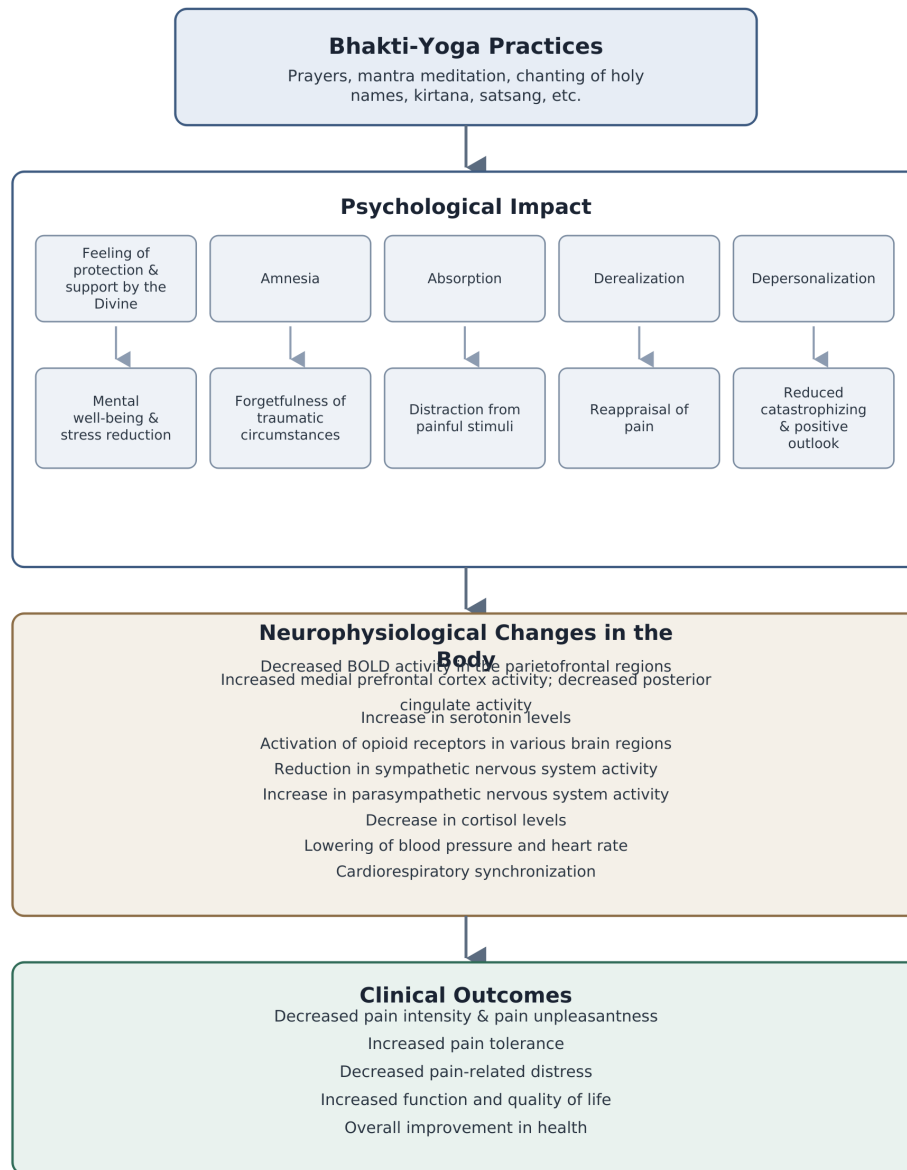


Figure 1: Proposed mechanism by which Bhakti-Yoga practices may contribute to pain management, showing hypothesised psychological changes (e.g., stress reduction, enhanced well-being, dissociative states) leading to neurophysiological changes that decrease pain intensity, unpleasantness, and pain-related distress while improving overall health.

possible that the serotonin system which has been understood to be significantly involved in the pain modulation via facilitatory & inhibitory pathways, plays a key role in spiritual experiences [20].

Role of Endogenous Opioids

It has been noticed that mindfulness meditation sessions are associated with the activation of opioid receptors in various regions of the brain. However,

it has been noticed in a study that even with administration of opioid antagonist naloxone, the analgesic effects of the mindfulness meditation did not get reversed. In fact, when mindfulness meditation was done during naloxone administration, it produced greater relief in pain intensity along with pain unpleasantness in comparison to the control group which was administered only saline. Thus, the findings suggest that it does not depend upon endogenous

opioidergic neuronal activity to alleviate painful sensations [23]. Similarly, it has been noticed that devotional practices like prayers do not necessarily depend on endogenous opioids for the reduction of pain. Opioidergic and non-opioid pain inhibitory systems in the brain, do not play a mandatory role as per the findings [19].

Meditation induced physiological changes

Meditation for Bhakti-yoga is usually done through chanting or in the form mantra meditation, etc. Overall meditation has shown many beneficial effects in numerous studies. It has shown to significantly lower increased blood pressure and heart rate and produce cardiorespiratory synchronization. Studies also suggest that it boosts the immune response and reduces stress while promoting positive mood states. It has also shown to reduce anxiety (which is also linked to reduced cortisol levels) and pain. Meditation seems to have a favourable influence on overall and spiritual quality of life in late-stage diseases. It has been noted that spiritual meditation seems to be better than secular meditation for decreasing anxiety, improvement in mood and tolerance of pain [24].

Regulation of Autonomic Nervous system

A study done in 2014 explored the spectral analysis of EEG and heart rate variability (HRV) to investigate how Muslim prayers affected the relative power (RP) of electroencephalography (EEG) and autonomic nerve activity, as well as the relationship between them. It showed significant improvements in parasympathetic nervous system activity and reduction in sympathetic nervous system activity. This suggests that prayers can prove to be effective in stress management, enhancing cardiovascular health while promoting mental relaxation [25].

Discussion

From a scriptural perspective, Bhakti-yoga practices aim at cultivating love for the God, which in turn also heal us. The positive and desired side-effects of these practices are inner tranquillity, satisfaction, wisdom, selflessness and fearlessness. While negative emotions like hatred, jealousy, ego, over-ambition, self-loathing, selfishness can lead to increased stresses, which in turn are a cause for innumerable illnesses especially chronic diseases, these positive emotions emerging out of selfless love for the God help in healing from within.

Many studies have shown prayers and meditation on the divine to be significantly effective in the management of anxiety and depression. Pain associated

with chronic illnesses also show a favourable outcome when devotional practices are used for them. Similarly, we have seen above that cancer and postoperative pains of gastrointestinal, caesarean sections etc. show clinically significant reduction with simple prayers. A study has shown that active type of prayers are more effective for pain management, as compared to the passive ones, while evidence also suggests the contrary that prayers irrespective of the type are effective in pain management. However, it's important to note that praying or devotional practices alone should not be used to manage pain. Devotional practices should be used as an adjunct to make the whole treatment process more effective and holistic.

It's noteworthy that a model for explaining the perception of pain has been suggested previously called the Biopsychosocial-Spiritual model for pain, which suggests that chronic pain perception depends not only upon biological, psychological and social factors but also spiritual processes. The pain stimuli received by the nervous system gets mixed with the psychological factors like stress, cognitive processes, mental coping ability which further gets influenced by social factors like environmental stressors, family support, relationships and finally with spiritual factors like religious beliefs to influence the perception of that pain and its management. Evidence suggests that the intensity of pain in Sickle-cell anemia gets reduced with better devotional inclination [26]. This biopsychosocial-Spiritual model for chronic pain suggests the importance of spirituality and devotion in pain perception and modulation.

As already stated, the exact mechanism of how Bhakti-yoga practices work is still not clear. The mechanism stated here is based on previous research. Improvement in the psychological well-being along with release of endorphins and increased serotonin levels might be contributing to decrease in perception of painful sensations. Dissociative mental states have also shown to be important in pain modulation. Meditation in general has shown to be quite effective in managing painful conditions. Certain regions of the brain show increased neuronal activity, like the medial prefrontal cortex while others show decreased activity like the posterior cingulate, whereas the BOLD activity in the Parietofrontal region is decreased due to the devotional prayers. Other physiological changes have also been noticed, like reduction in blood pressure and heart rate, along with cardiorespiratory synchronization, overall improvement of immune responses and cortisol level reduction.

There are certain limitations of this article which we felt should be addressed. Firstly, the research

studies used here are not based on Hinduism, in the scriptures of which the concept of Bhakti-Yoga has been originally mentioned with extensive details. The rationale for their inclusion is the universality of the practices of Bhakti-Yoga which are common in most of the religions of the world presently. Thus, we need studies which are based on Bhakti-Yoga for a better understanding of its clinical significance. Secondly, we have taken the liberty to include research, which is not very recent, because the number of studies on devotion relating to pain and clinical outcomes is very limited. This hopefully will be addressed when more studies will be done in the future in this highly relevant field. Thirdly, we have tried to understand spirituality through the sight of modern science, trying to bridge the gap between them. Studies with tools to measure spiritual phenomena like "Prana", "Chi", etc. in the future will be highly useful to understand the underlying mechanisms for the observed clinical outcomes.

Conclusion

Based on the findings of previous research we suggest that Bhakti-yoga practices can prove to be reliable complementary adjunct to the treatment programmes. The strong role of spiritual practices and beliefs in pain perception and modulation is further strengthened by evidence from multiple studies where pain modulation was better when treatment was combined with prayers and meditation on the God. Not only do the Bhakti-Yoga practices address the existing spiritual needs of religious patients but also make pain management easier for healthcare professionals. With better coping, improved mental relief, and decreased pain intensity, the prognosis of the disease can improve. It's not only cost effective, but holistic and practical as well.

Lastly, further studies are required to understand the exact mechanism behind the effectiveness of Bhakti-yoga practices. Also, development of modules for its better implementation in modern healthcare settings is needed.

COMPLIANCE Not required.

CONFLICT OF INTEREST None.

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