

For the First Time I Felt Great Hope: Experience of Yoga and Yoga Nidra as Therapy for Depression, Anxiety and Stress



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Abstract

Introduction: Many individuals experience stress in everyday life. Chronic stress can lead to anxiety and depression and can weaken the immune system. Yoga and yoga nidra can reduce symptoms of depression, anxiety and stress. No Icelandic research has been published on the experience of yoga and yoga nidra as a therapy for depression, anxiety and stress. The purpose of this research was to study yoga and yoga nidra for depression, anxiety and stress and to increase knowledge and deepen understanding of the subject.

Materials and Methods: Both quantitative and qualitative methodology was used. In the quantitative study the DASS questionnaire was submitted to 13 participants, aged 19–55 years who had participated in a 10-week yoga and yoga nidra program. In the qualitative part six women, aged 28–47 years who had participated in the same yoga and yoga nidra program, were interviewed.

Results: The quantitative results showed that yoga and yoga nidra decreased symptoms of depression, anxiety and stress for all participants. The results from the qualitative study were analyzed into five themes: Experience of health problems; experience of trauma, impact of yoga course, impact of yoga and impact of yoga nidra. All the women in the qualitative study had experienced depression, anxiety and stress from childhood. After the yoga and yoga nidra program they experienced less depression, anxiety and stress and better mental well-being. They slept better, experienced more hope and peace of mind.

Conclusions: Yoga and yoga nidra can be an effective treatment for depression, anxiety and stress. The results also illustrate the importance of looking at the previous health history of the individual with psychological trauma in mind. People seek help for the consequences not for the root of the problem.

Keywords: Yoga; Yoga nidra; Depression; Anxiety; Stress; Trauma; Phenomenology

Abbreviations: GABA: Gamma Amino-Butyric Acid System; WHO: World Health Organization; ACE: Adverse Childhood Experiences; SE: Somatic Experience; EMDR: Eye Movement Desensitization and Reprocessing; MRI: Magnetic Resonance Imaging; DASS: Depression Anxiety Stress Scale

Introduction

Many individuals struggle with stress in daily life and work [1]. Stress is the body's natural response to environmental stimulus manifested by the interplay of various aspects of the central nervous system. If stress is persistent, it can become harmful [2] and is the most common reason that people take sick leave [3]. Untreated stress can cause various health problems such as anxiety, depression, post-traumatic stress disorder, poor state of health, and obesity [4]. Stress is thought

to cause imbalance in the autonomic nervous system through a hyperactive sympathetic nervous system and a hypoactive parasympathetic nervous system. Stress is also believed to hinder the efficacy of the GABA-system (gamma amino-butyric acid system) which, among other things, contributes to emotional control and, if impeded, can lead to anxiety and depression [5]. According to the World Health Organization (WHO), anxiety and depression are the most common psychological disorders in the world today. Globally, 322 millions have been diagnosed

with depression and 264 millions with anxiety [6]. An Icelandic study among people who sought medical assistance due to chronic physical health problems without any obvious physical cause showed a strong connection between such symptoms and depression and general anxiety [7]. Psychological traumas can be the reason that individuals develop anxiety, depression, and post-traumatic stress [8]. There is a connection between psychological trauma and Adverse Childhood Experiences (ACE) and various health problems later in life [9,10]. Therefore, it is important to look at the individual's previous health history, taking psychological trauma into account, since people often seek treatment for symptoms rather than for the root cause of the problem [8]. Usually, depression and stress are treated with psychotherapy and medication [11]. Sometimes, Somatic Experience (SE) has been successful when therapy focuses on chronic stress and PTSD as they manifest in physical symptoms [12]. EMDR (Eye Movement Desensitization and Reprocessing) has also been effective by incorporating the processing of information and difficult thoughts, memories, and emotions [13]. Yoga and meditation have gained popularity in therapy for anxiety, depression, and stress [1,14,15].

Yoga and yoga nidra

Yoga emerged a few thousand years ago and many ancient texts have described the philosophy behind it [16]. There are many forms of yoga with different emphases on bodily poses, meditation, mantras, relaxation, and breathing [17]. Yoga is believed to correct dysfunction in the parasympathetic nervous system and nerve impulses in the GABA-system by stimulating the vagus nerve and thereby reduce stress and the symptoms of stress related diseases [5]. Yoga nidra is an ancient meditation technique used to increase balance and well-being. Yoga nidra means yogic sleep and could be referred to as prone guided meditation, which is considered restorative for the body and soul [18]. During the deep meditative state in yoga nidra, the individual's brainwaves enter the theta and delta frequencies, which slows brain activity and causes a state akin to deep sleep [19]. In deep sleep, delta brainwaves are dominant and important for holistic treatment and restoration of the body through the release of growth hormones [20]. In recent years, complementary and alternative therapies such as yoga and meditation have become more common in the treatment of psychological problems in the Western World [21]. According to an Icelandic national survey from 2015 on the use of complementary and alternative therapies [22], 19.3% of participants had used yoga and meditation therapy in the previous 12 months. In 2006, this proportion was 6.8%, which indicates an increase of 12.5% over a nine-year period [22].

Yoga and clinical studies

No Icelandic study has been published on the effects of yoga nidra on anxiety, depression, and stress. One Icelandic quantitative comparative study has been published on the effects of Hatha yoga on stress symptoms and it showed no significant differences

before and after the intervention. However, participants did report better sleep and increased psychological well-being and energy [23]. International studies have shown that practicing yoga has a positive effect and decreases anxiety, depression, and stress, as well as reducing worry [1,14,15]. Yoga can improve equilibrium in the autonomic nervous system by instigating a relaxation response [5] and increase general well being [14]. Yoga nidra meditation can reduce negative thoughts and emotional responses [24]. Neurobiological studies have been conducted on the effects of mindfulness meditation on the structure of the brain using magnetic resonance imaging (MRI). These studies show a distinct effect in the limbic system, where processing of emotional responses occurs [25-27]. Studies have also shown positive effects of relaxation on the insula, which handles many processes including detection of emotion and equilibrium in the autonomic nervous system [28]. An association has been found between deterioration of the insula and anxiety and/or depression [27].

Study aims and questions

The current study aims to investigate the use of yoga and yoga nidra in the treatment of anxiety, depression, and stress, and to increase knowledge and deepen understanding of these techniques. The research question is: What are the effects of yoga and yoga nidra on anxiety, depression, and stress?

Material and Methods

Quantitative and qualitative approaches were employed. The intervention used was a yoga course conducted over a 10-week period, once per week, in two-hour sessions.

Quantitative approach

The quantitative portion was composed of a DASS (Depression Anxiety Stress Scale) questionnaire completed by participants. The DASS questionnaire is a self-report scale with 42 items that estimate depression, anxiety, and stress during the previous week [29]. The validity and reliability of the Icelandic DASS-questionnaire have been determined satisfactory in Icelandic studies, with an alpha-index of 0,86-0,91 for certain subscales [30]. Data analysis was conducted in Excel.

Participants and data collection

Participants were chosen by convenience sample of individuals who registered for a yoga course advertised specifically for people suffering anxiety, depression, and stress. Inclusion criteria were fluency in Icelandic and availability to participate in the course. No previous expertise in yoga or experience of meditation was required for registration in the course. In addition to the 10-week yoga course, participants were provided with optional instruction, exercises, and meditations which they were encouraged to use between course sessions. Each yoga session began with education about a particular subject. This was followed by exercises, meditation, mantras and/or breathing exercises, and finally, yoga nidra meditation. The DASS questionnaire was completed by

participants in the first and last sessions to collect information about anxiety, depression, and stress. At the end of the course, participants were invited to attend a voluntary interview, to which six women aged 28-47 responded.

Qualitative approach

The phenomenological Vancouver School was used as a qualitative approach to answer the research question. This method was chosen as it is intended to increase knowledge and deepen understanding of human phenomena and improve service. The ideology behind the Vancouver school is based on the philosophy that everyone is unique and has a unique perspective. Data collection is based on interviews designed to examine human experience in such a way as to provide the researcher with the clearest possible understanding of how the participant experienced the study phenomenon. There are twelve stages (Table 1) and at each stage, the researcher uses seven rational procedures and applies cogitation: to remain still, to reflect, to identify, to select, to interpret, to construct, and to verify [31]. At the first stage, the study was introduced in the first session of the yoga course. At the second stage, the researcher had to identify their own preformed ideas about the phenomenon and put them aside. At the third stage, data was collected, interviews were conducted with each

participant for a total of 12 interviews - at the end of the course. Participants chose the interview location, and each interview was from one to two hours long. A predetermined interview format was used but questions could vary depending upon the answers provided and how the interview progressed. Interviews were recorded, transcribed exactly, and then recordings were deleted. To protect the identities of the participants, aliases were assigned and only the first author had access to the data. At the fourth stage, the interviews were written up and at the fifth stage, the text was analyzed to understand participants' experience and to identify the core issues in their answers. At the sixth stage, the core issues were compiled to provide a complete picture and a running theme was found in each participant's narrative. To increase validity and reliability, this overview was presented to each participant at the seventh stage and at the eighth stage, the completed analysis model was drawn. The ninth stage was the comparison of the raw data with the completed analysis model to assess the consistency between the two. The study was given the name "For the first time I felt great hope" at the tenth stage, which is a direct reference to the words of one participant and an apt description of the study. At the eleventh stage, the results were presented to each participant and at the twelfth stage, the results were written into a report [31] (Table 1).

Table 1: The 12-basic step of vancouver school of phenomenology

Step 1.	Selecting dialogue partners (the sample)
Step 2.	First, there is silence (before entering dialogue).
Step 3.	Participating in a dialogue (data collecting).
Step 4.	Sharpened awareness of words (data analysis).
Step 5.	Beginning consideration of essences (coding).
Step 6.	Constructing the essential structure of phenomenon for each case (individual case constructions).
Step 7.	Verifying the single case construction with co-researcher.
Step 8.	Constructing the essential structure of the phenomenon from all cases (metasynthesis of all the different case construction).
Step 9.	Comparing the essential structure with date.
Step 10.	Identifying the over-riding theme with describes the phenomenon (interpreting the meaning of phenomenon)
Step 11.	Verifying the essential structure (the findings) with some research participants.
Step 12	Writing up the findings.

Study ethics

The required permits were acquired from the National Bioethics Committee (VSN-19-030) and the study was announced to the Data Protection Authority. Participants received an introductory letter at the beginning in which the purpose and design of the study were described. Participants were informed that they could end participation at any time, that the interviews would be recorded, and the recordings subsequently deleted, and that pseudonyms would be used. Researchers were led by the

following principles: respect, harmlessness, benevolence, and fairness toward participants. Participation in the study was not considered to be an ethical opinion.

Results

The results of the quantitative and qualitative portions of the study showed that yoga and yoga nidra are helpful in easing the symptoms of anxiety, depression, and stress (Figures 1-3).

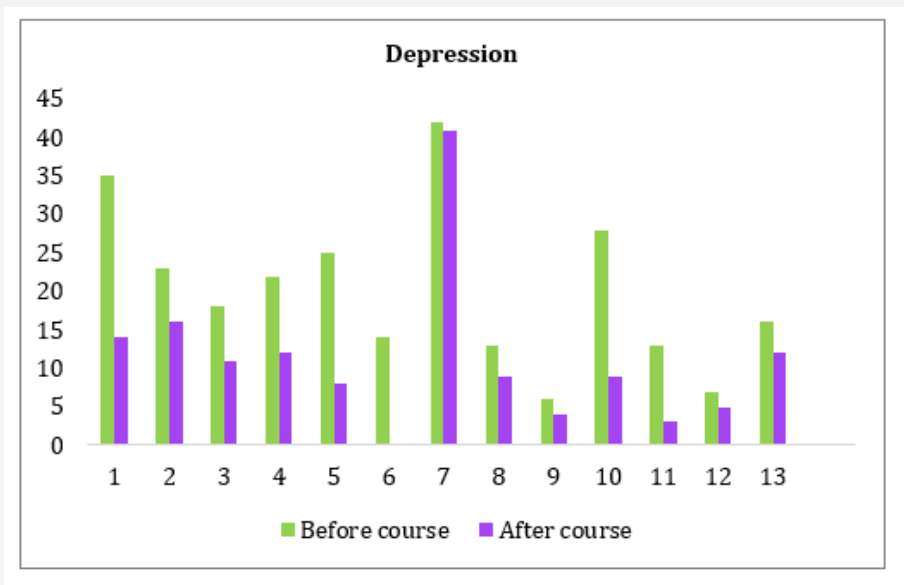


Figure 1: Depression.

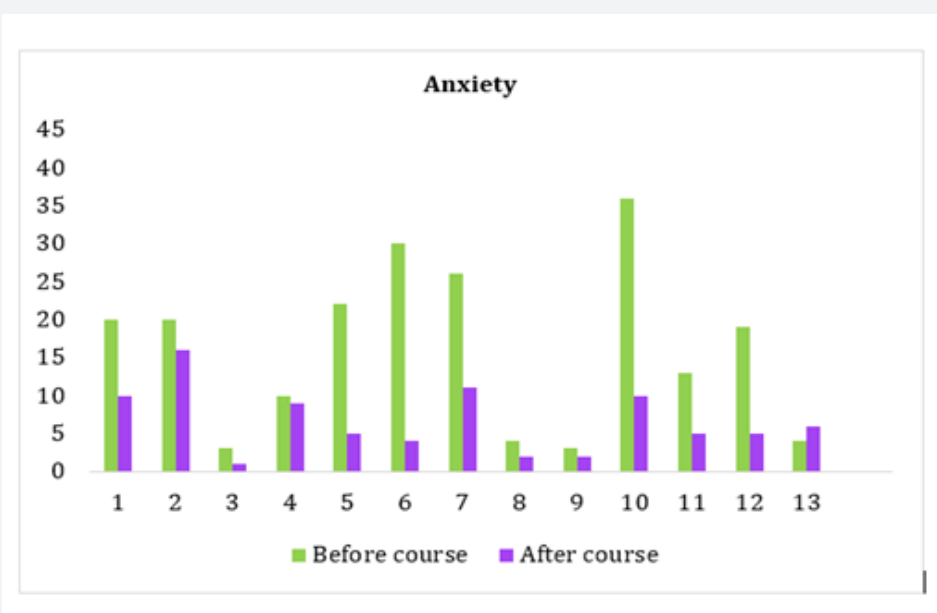


Figure 2: Anxiety.



Figure 3: Stress.

Quantitative results

In total, 13 participants answered the DASS questionnaire to assess depression, anxiety, and stress. Most participants were women aged 19–55. Figure 1-3 show results from before and after the yoga course. Table 2 shows reference values of the DASS subscales for depression, anxiety, and stress. The results show that practicing yoga and yoga nidra decreased all symptoms on all subscales for all participants (Table 2). According to the DASS baseline measurement that was done before the yoga course began, two participants were within the normal range for depression symptoms and after the course, there were seven participants in this range. At the end of the course, only one participant of 13 (participant nr. 7) still showed strong symptoms of depression (Figure 1), but greatly decreased symptoms of

anxiety and stress (Figures 1-3). In the preliminary measurement, four of 13 participants showed normal levels of anxiety and after the yoga course, this number had increased to eight of 13 (Figure 2). Before the yoga course, four showed normal levels of stress, whereas after the course was complete, ten were within the normal range of stress symptoms (Figure 3). However, among those who showed symptoms of severe stress after completion of the course (participant nr. 7) had decreased from 39 to 28. Most participants experienced less severe symptoms of all three conditions after course completion (Figures 1-3). After completion of the yoga course, the average depression symptom index had decreased from 20 to 11, the average anxiety symptom index had decreased from 16 to 6.5, and the average stress symptom index had dropped from 22 to 10.5 (Figure 4), and the changes were significant in all categories ($P < 0,05$).

Table 2: DASS-21 severity rating.

Symptoms	Depression	Anxiety	Stress
Normal	0–9	0–7	0–14
Mild	10–13	8–9	15–18
Moderate	14–20	10–14	19–25
Severe	21–27	15–19	26–33
Extremely Severe	28–42	20–42	34–42

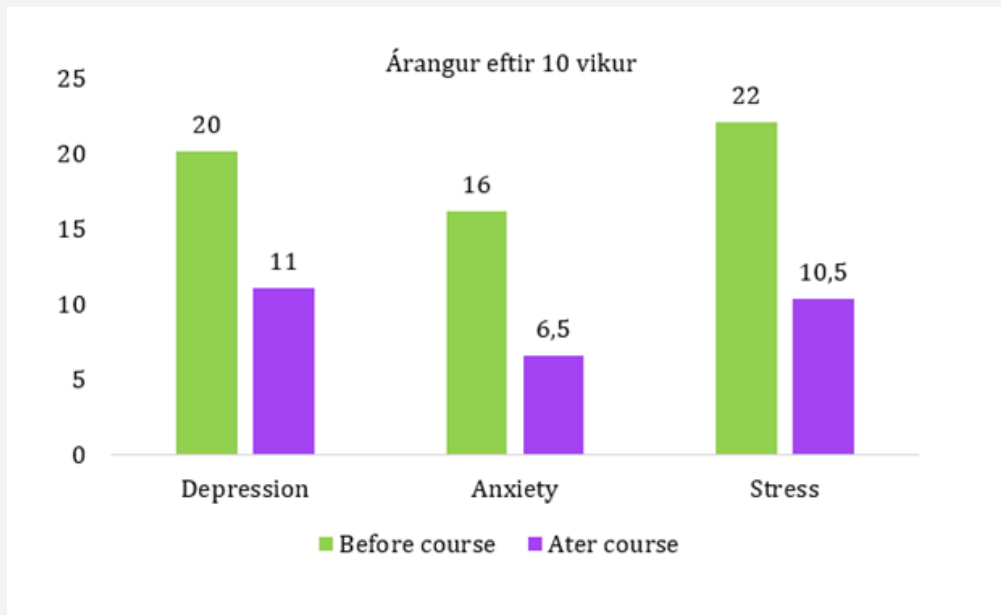


Figure 4: The average score before and after 10 weeks.
*The changes were significant in all categories ($P < 0,05$).

Qualitative results

The results of the qualitative portion were divided into 5 main themes: experience of health problems, experience of trauma,

impact of the yoga course, impact of yoga and yoga nidra (Figure 5). The overall theme: “For the first time I felt great hope” is an apt description of the experience of all participants and is a direct reference to one participant.



Figure 5: Analyses model of identified main theme: For the first time I felt great hope.

Experience of health problems

All six women recounted their experience of depression, anxiety, and chronic stress since childhood. They were struggling with various health problems in adulthood. They had suffered anxiety and/or depression in childhood which developed into

other psychological problems during their teen years and followed them into adulthood. Eva described her experience of psychological troubles: “I am now experiencing depression for the first time, but I have had anxiety since was about 10 years old. But it is only now that I live through and experience depression.” Sara said that she had always been more aware of anxiety because she had felt that

for so long that she was just accustomed to it: "I have noticed that when anxiety is strong as a result of stress that it can overrun my system and I crash into depression." Sif, Freyja, and Anna all had anxiety in childhood, but Inga experienced depression: "I think I was always a rather depressed child." Four participants had been diagnosed with post-traumatic stress disorder in adulthood, three had experienced or were suffering burnout, and Inga said: "I was suffering dangerous stress symptoms, but when I think back, I think I've had these symptoms since I was a child." The women described self-destructive behaviors from the teen years that carried into adulthood. Two had ventured into violent behavior and crime. Sara had served a prison sentence for smuggling drugs: "I participate in drug smuggling and am arrested...I serve my prison sentence." Five of the women had a history of alcohol and/or drug abuse but all were clean for from four to 20 years before this study began. Sara started using very young: "As soon as I begin to drink, I have to deal with the pain and therefore have to use more. I develop alcoholism and drug addiction; I have repeated attempts at rehabilitation behind me but have currently been sober and clean for six years". Suicidal thoughts are also common among the women. Eva experienced suicidal thoughts due to the burdens and difficulties of adulthood: "for the first time, I understand people who take their own life."

The woman described physical health problems in adulthood. Anna was diagnosed with the autoimmune disease systemic lupus erythematosus in both her skin and joints, as well as having arthritis. She must inject herself with medicine twice each week. Freyja described an inflammatory disease in her digestive tract for which she must take a preventative medication and undergo regular steroid therapy. Imbalance regarding diet was also a common problem among the women, either they far too much or far too little. This resulted in either undesired weight gain or weight loss. Most of the women also reported having trouble sleeping.

Experience of trauma

When the women described their experience of stress and mental problems, traumatic histories were revealed which they saw as the cause of their problems. The women had experienced repeated psychological traumas in childhood and in adulthood. They did not process these traumas when they happened and, after a long time, the problems they caused worsened. They had all experienced mental, physical, or sexual violence which would have effects on their life, as Freyja described: "I went out into life so unbelievably broken and, of course, became involved with a violent man addicted to drugs. That relationship resulted in my experiencing repeated traumas." Inga had been raped twice and Sara had suffered repeated sexual violence at the hands of many men she didn't know whom her mother had invited home with her. The abuse began when she was very young and persisted until her teen years, as Sara says: "I wasn't abused just by one man, this is many men throughout my life." The women had also experienced neglect in some form, though some did not recognize

it as such until reaching adulthood. They had all grown up with alcohol and/or drug abuse in their childhood home, either by their mother, father, or both and that fostered codependence. Their childhood was tainted by complex problems that shaped their lives and Freyja described her experience of growing up with neglect, alcoholism, and codependence: "I quickly developed stress caused by self-blame, lack of communication skills, and low self-confidence. I was never asked about how I felt; I never got to express my emotions nor was I ever taught to recognize them." Sara spoke of how neglect which began in childhood became a chronic trauma for her in subsequent years: "I was born into horrible conditions in which, from the moment I was conscious of my surroundings, I needed to care for myself; try to survive." Anna recounted what it was like to grow up with two alcoholic parents, her mother having also been diagnosed with bipolar disorder, their relationship was always very stormy: "One day she would be high up, everyone is a moron, they're all stupid, or she would be very nice." The neglect she experienced in childhood caused Sara to use illicit drugs and her own child was taken from her as a result. Many years later, children of Sara and Sif turned to drug abuse. Both children had been in and out of rehabilitation centers. The women described other traumas such as abusive relationships, deaths, miscarriages, and infidelity.

Impact of the Yoga Course

The women all reported enjoyment of the yoga and yoga nidra course. They all found that it helped them to reduce the symptoms of anxiety, depression, and stress. Inga worded it thus: "I can see that it helped me. It's so good for me, I have a feeling of well-being. The symptoms maybe haven't disappeared, but I see that I can use this to lessen their effect. I feel an inner peace and that is something I am looking for". They experienced more mental balance and well-being during the course, as Freyja describes: "I can be the best version of myself, I experience spiritual balance and well-being. I feel like I can truly achieve inner peace for the first time because my head is not tirelessly getting in the way. If something gets out of balance or arises unexpectedly, then yoga is the first thing that comes to mind that can help me return to mental balance". The women had all expected life could be better; for example, Eva: "For the first time, I felt great hope that I could feel a little better." Additionally, they reported that the yoga course had improved their self-confidence, self-image, and self-compassion. Sif described it thus: "I have much more compassion for myself, have much more self-confidence, and my self-image is better. I feel much better in all ways after this yoga course, and I have so much more hope for a brighter future." The women spoke of being happier, more positive, calmer, more mindful of the present, having better focus, sleeping better, and deeper peace of mind. They felt anticipation for each session and Anna said: "I lived for the sessions after which I always felt so well." Eva also described the feelings she had after attending the yoga course: "I cannot put into words how profoundly this has affected me because I have been in such a difficult place for three months." They all agreed

that they would have liked to have two sessions per week and wanted to take a continuation course. They reported that they would use the techniques they learned in the yoga course in the future.

Impact of yoga

The women agreed that yoga was effective. They used different techniques depending on the conditions and agreed about which techniques were best in various situations. They were more energetic after a session, experienced deeper peace of mind and balance with the meditation and mantras. Inga used the meditation to bring herself down after becoming upset: "I can sit down for five minutes, put something on in my headphones, and achieve balance with meditation immediately." They felt that the breathing exercises were effective against anxiety and stress, as Inga realized: "As soon as I breathe into my belly, I relax." When facing difficult circumstances, they used yoga techniques learned in the course, as Eva describes: "I had not gone out among people in three months, I was so depressed. But suddenly, in week four, it was like something had loosened inside me. I got in the car, drove to the grocery store, which I had not done into a long time. I use the techniques from the course when situations are difficult. I do what I want to do rather than avoid these Situations".

Impact of yoga nidra

The women agreed that yoga nidra was effective and that it worked better as the course went on, as Sara said: "In the last two sessions, I was calmer and didn't feel any stress." It was restorative and relaxing, as Inga said: "When I come out of yoga nidra I am so relaxed, refreshed, and reset." The impacts seem to last for some days and Anna described it thus: "For two to three days afterward, I am calmer." It also helped with sleep quality. Inga said: "When I cannot sleep, I put on the recording of you leading yoga nidra and I fall asleep."

Discussion

The purpose of the study was to examine the impacts of yoga and yoga nidra on depression, anxiety, and stress. This is the first study of this sort conducted in Iceland. Participants had struggled with depression, anxiety, and chronic stress since childhood, and the qualitative portion revealed that the women had long histories of trauma. They had various health problems; mental and physical conditions which they considered linked to persistent stress caused by trauma. The quantitative portion shows that the symptoms of depression, anxiety, and stress decreased for all participants after the yoga course, according to baseline DASS measurements at the beginning. The women in the qualitative study experienced decreased symptoms of depression, anxiety, and stress, in addition to better mental balance, and well-being. They learned techniques to handle difficult conditions.

Impacts of persistent stress on health

The lives of the women in the qualitative portion had been

shaped by depression, anxiety, persistent stress, and mental trauma since childhood, affecting their health. Health problems that started in childhood developed into mental problems and serious infirmity during adolescence and adulthood. Connections between persistent stress, mental and physical health problems have been shown [4,32]. If stress is persistent in children, it can affect mental and physical health and behavioral traits in adulthood [33].

Psychological trauma and impacts on health

All the women in the qualitative portion participated in the course to treat depression, anxiety, and stress. Data collection and analysis revealed histories of severe trauma. They described neglect and abuse that they had suffered in childhood, and what effects that had had on their mental and physical health and well-being in adulthood. They experienced repeated traumas before age 16 and continued to experience traumas into adulthood. As a result, they experienced dysphoria and suicidal tendencies into adulthood. This pattern of neglect, violence, and frequent trauma from childhood into adulthood is as reported in studies showing that individuals who experience trauma in childhood are more likely to suffer such traumas in adulthood [9]. This also agrees with the literature review by Angelakis et al. [34], which showed that an individual is three times as likely to have suicidal thoughts and attempted suicide if they suffered traumas early in life. Psychological trauma can have various consequences, such as mental problems and criminality [9]. It is possible that the women's health problems and difficulties are consequences of recurrent traumas they experienced in both childhood and adulthood. They did not seek help because of the traumas, allowing the symptoms of depression, anxiety, and stress to develop into more complex health issues.

Impacts of practicing yoga and yoga nidra

The results of both quantitative and qualitative portions show that symptoms of depression, anxiety, and stress decreased for all participants during the 10 weeks yoga course. This reflects the results of previous studies which have shown positive effects of yoga and yoga nidra on mental health [1,14,25,27]. Additionally, yoga and yoga nidra improved the lives of the women in many ways; they experienced less stress and more relaxation after the course. They also, developed better self-image, self-confidence, self-compassion, positive thinking, and more happiness. This is in line with earlier studies on the impacts of practicing yoga [1,35]. Moreover, it has been shown that yoga nidra can increase positive emotions and believed [24]. Practicing yoga is thought to reduce pressure and overstimulation and thereby correct dysfunction in the parasympathetic nervous system and neurotransmitter delivery of the GABA system [5]. It is possible that yoga and breathing exercises influenced the brain activity of participants by reducing dysfunction in the parasympathetic nervous system and neurotransmitter delivery of the GABA system. Thereby,

the symptoms of depression, anxiety, and stress decreased, and well-being increased among participants. Improved wellness contributed to better focus, sleep, emotional control, peacefulness, mindfulness, sense of identity, and hope, which led to participants feeling more mental wellness and inner peace.

The qualitative interviews revealed long histories of traumas that the women had not processed, that had had profound effects on their lives. These results illustrate the importance of a trauma-centered approach that could improve service and therefore, the health and quality of life of individuals. These results concur with previous studies of psychological trauma, related consequences, and health problems [8]. It is important to examine health problems with mental trauma in mind. It is crucial that healthcare providers can provide or direct patients to suitable treatment services to avoid the development of further health problems that can result from the experience of mental trauma [36]. Better care needs to be taken of people who have suffered psychological traumas and their health problems need to be better addressed. Importantly, treatment must not focus only on the symptoms, rather possible underlying causes must be investigated, though they might be rooted deep in the history of the individual.

Study strengths and limitations

The strength of this study is that it is a first of its kind in Iceland to focus on the effects of yoga and yoga nidra on depression, anxiety, and stress. Also, the study is strengthened by both quantitative and qualitative methods, since it is based on the answers given by 13 participants given a DASS questionnaire and interviews with six women who had struggled with depression, anxiety, and stress. Since the sample size is so small and the timeframe short, these results cannot be applied to everyone, who suffer from depression, anxiety, and stress. However, this research does increase knowledge and deepen understanding of the usefulness of yoga and yoga nidra in the treatment of depression, anxiety, and stress, and the connection of these conditions with a history of trauma. More research on the effects of yoga and yoga nidra is necessary with larger samples and wider data collection. Furthermore, it would be interesting to study the long-term effects of yoga and yoga nidra on mental wellness.

Conclusion

Yoga and yoga nidra can be helpful for various patient groups and it is already being widely used with good results. Studies like this one are encouragement for health care providers to seek education and training in this field of study to improve the quality of the care they can provide. With increased knowledge and deeper understanding of the positive effect of yoga and yoga nidra in relation to depression, anxiety, and stress, health care professionals have better criteria to provide interventions or direct patients to other appropriate treatments. In addition, this study highlights the importance of taking individuals health history and possible trauma history into account when investigating and

treating various health problems.

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