



# Effects of Yogic Intervention on Mental Health and Psychological Wellbeing of Female Prisoners

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(Received: 16 June 2025

Revised: 20 July 2025

Accepted: 04 August 2025)

## KEYWORDS

Yogic intervention, female prisoners, mental health, psychological well-being, stress, depression, self-esteem

## ABSTRACT:

The mental health and psychological well-being of female prisoners stands out as one of the most neglected issues affecting rehabilitation. Incarcerated women have increased levels of anxiety, stress, and depression which is made worse by the highly restraining and solitary environment of prisons. This research analysed the effect of a structured six-week yoga program on the mental health and psychological well-being of female prisoners. The program included yoga asanas, pranayama, meditation, and relaxation techniques, which targeted the psychological issues of the participants. 40 female prisoners were randomly divided into an experimental or control group. The experimental group underwent a yoga program for three months, while the control group continued their normal daily activities. Results indicated that within the experimental group, there was a statistically significant ( $p \leq 0.05$ ) reduction of anxiety, depression and stress scores in comparison to the control group. Anxiety scores dropped from  $16.1 \pm 1.8$  to  $9.7 \pm 1.9$ , depression scores fell from  $13.0 \pm 1.4$  to  $8.4 \pm 1.8$  and stress scores declined from  $12.7 \pm 1.0$  to  $8.7 \pm 1.9$ . The intervention achieved 47% less difficulty in breathing, 70% reduction in fainting feelings and over 50% reduction in nervousness, gastrointestinal distress, chest tightness and nausea. Empty feelings (39%) as well as self-efficacy (50%) concerns and profound sadness (55%) were lessened significantly. Spontaneous crying (44%) and poor self-perceived health (47%) were undergoing severe emotional regulation improvement. Stress symptoms improved alongside participants' self-reported difficulties relaxing, which dropped by 44%, negative reactions that dropped by 45%, and intrusive thoughts that decreased by 60%. The study indicates that yoga asana practice serves as an effective psychotherapeutic tool in alleviating psychological distress, strengthening emotional coping resources, and enhancing mental health among women serving prison sentences. Incorporating yoga-based programs in prison rehabilitation programs can help in the psychological and holistic recovery of women prisoners.

## 1. Introduction

Prisons are establishments intended for punishment and rehabilitation; nonetheless, they frequently inflict significant psychological and emotional distress on their residents. The severe atmosphere, societal isolation, and absence of significant social connection might induce convicts to experience depression, rage, and dissatisfaction. This exacerbates psychological issues, leading to increased distress, rage and antisocial behaviour in the prison population (Nurse, 2003). The mental health impact on female convicts, who may encounter additional gender-specific challenges, might be very pronounced. In this setting, it is essential to

explore effective techniques for managing psychological problems within the prison system. In India, mental health initiatives, particularly stress management programs, are rare in jails and garner minimal attention. This gap underscores the necessity for alternative methodologies to psychological well-being, encompassing the incorporation of holistic techniques such as yoga and meditation. Both practices serve as valuable instruments for enhancing mental health in correctional environments, as mental health specialists universally recognize their physical, emotional, and psychological advantages. Yoga and meditation have been well-regarded for their ability to improve physical fitness, alleviate ailments, and promote general wellness



(Park & Kim, 2014). In addition to their physical advantages, these techniques provide significant psychological benefits, including inner tranquility, self-awareness and emotional fortitude. For incarcerated individuals, yoga and meditation serve as essential instruments for coping with the adversities of imprisonment, such as diminished autonomy, restricted familial interaction, absence of privacy, and apprehensions regarding personal safety (Sfendla et al., 2018). These methods can mitigate emotions of deterioration and hopelessness while also reducing the tension in interpersonal connections inside the jail setting. The systematic practice of yoga and meditation enables inmates to enhance their emotional regulation, so improving their ability to cope with the challenging circumstances of incarceration. These strategies can be effortlessly incorporated into prison systems due to their cost-effectiveness and minimal equipment requirements, addressing the needs of substantial prisoner populations. Upon achieving a satisfactory level of proficiency in yoga and meditation, convicts may practise autonomously, therefore significantly improving their psychological and emotional well-being. The intervention will offer a promising approach to improving the psychological well-being of female prisoners, given the challenging prison environment and the growing data supporting the efficacy of yoga and meditation for mental health.

## 2. Methodology:

**Study Design:** A parallel-group (Experimental and Control) randomized controlled trial (RCT) was conducted with a 1:1 allocation ratio. The process of randomization was carried out using the Random Number Generator v1.4 application. The participants: Only women volunteers who have been imprisoned under violation of any act established by Indian Law code will be eligible for taking part in this study. After an introductory session outlining the purpose, procedures and benefits of the study, 53 female prisoners were interested to take part in the study. However, due to some unavoidable internal circumstances 07 volunteers not permitted to take part in the study by the authority of District Jail of Etawah, Uttar Pradesh. The volunteers had a mean age of  $27.7 \pm 6.3$  years, an average height of  $154.7 \pm 2.9$  cm, and a mean body mass of  $58.4 \pm 5.7$  kg. Out of interested 46 female prisoners 40 volunteers randomly divided into two distinct groups: (a) control group (n=20)

and (b) the experimental group (n=20). All the grouped volunteers completed a brief questionnaire of basic health and personal information and provide written informed consent prior to include in the study. The study was approved by Academic and Research Ethics Committee of Lakshmbai National Institute of Physical Education, Gwalior, India, according to declaration of Helsinki.

**Interventions:** In collaboration with three distinguished professors in the field of yoga, the researcher formulated a customized a two month yogic practice protocol for the Experimental Group (EG) women prisoners. The volunteers participated in daily 30-minute morning sessions from 8:00 AM to 8:30 AM for a duration of two months. Nevertheless, six sessions were annulled due to inspections or other official obligations of the authorities. The intervention began in the second week of May 2023 and extended until the third week of July 2023. A certified Yoga instructor was assigned to conduct the sessions. Concurrently, the Control Group (CG) participants did not receive any targeted intervention or mandated activities, maintaining their routine daily tasks. Pre-test data were obtained two days prior to the intervention, and post-test data were gathered on the same day in the afternoon following the completion of the intervention. Measuring Variables: Personal, demographic and selected psychological factors, including stress, anxiety, depression, aggression and psychological well-being, were evaluated for the study. The stress, anxiety and depression scales created by Pallavi Bhatnagar were utilised to assess individuals' psychological conditions (Megha Singh & Pallavi Bhatnagar, 2016). These questionnaires provide thorough insights into the psychological alterations prompted by the intervention, facilitating an assessment of the efficacy of the yogic practices.

**Table 1: Prescribe yogic practice protocol for experimental group volunteers**

Activity	Duration (min)	Description
Opening Prayer	1	Chanting "Om" to calm the down and focus before the session.



Loosening Practices / Warm-Up	4	Gentle joint rotations (neck, shoulders, wrists, hips, knees, ankles) to reduce stiffness and prepare the body.
Pragyayoga	6	A series of slow, mindful movements with synchronized breathing (e.g., seated spinal twists, cat-cow pose).
Relaxation Asanas (Shavasana/Makar asana)	3	Deep relaxation in Shavasana (Corpse Pose) or Makarasana (Crocodile Pose), focusing on breath awareness.
Breathing Practices (Pranayama)	8	Nadishodhan (2min), Bhramari (3 min) and Ujjayi (3min) for breath control and energy flow.
Soham Meditation	3	Mantra meditation: Mentally chant "Soham" with the breath (So with inhale, Ham with exhale)
Omkar Chanting and Shantipath	2	Chant "Om" three times and recite Shantipath for peace and tranquility.

Approx. 20-30 seconds resting time between each activity

**Statistical Analysis:** The data was presented using descriptive statistics. The Kolmogorov-Smirnov test was performed to analyse the dataset's distribution pattern,

indicating that most of the data followed a normal distribution. Furthermore, Levene's test was conducted to evaluate the homogeneity of variances, revealing no significant differences. As a result, parametric analysis (ANOVA) was utilised. A significance level of  $p \leq 0.05$  was considered for the study. Statistical analysis and graphical representation were carried out using Gnumeric spreadsheet (Version 1.12.48) and the Jamovi 2.5.3.0 free statistical software.

### 3. Results:

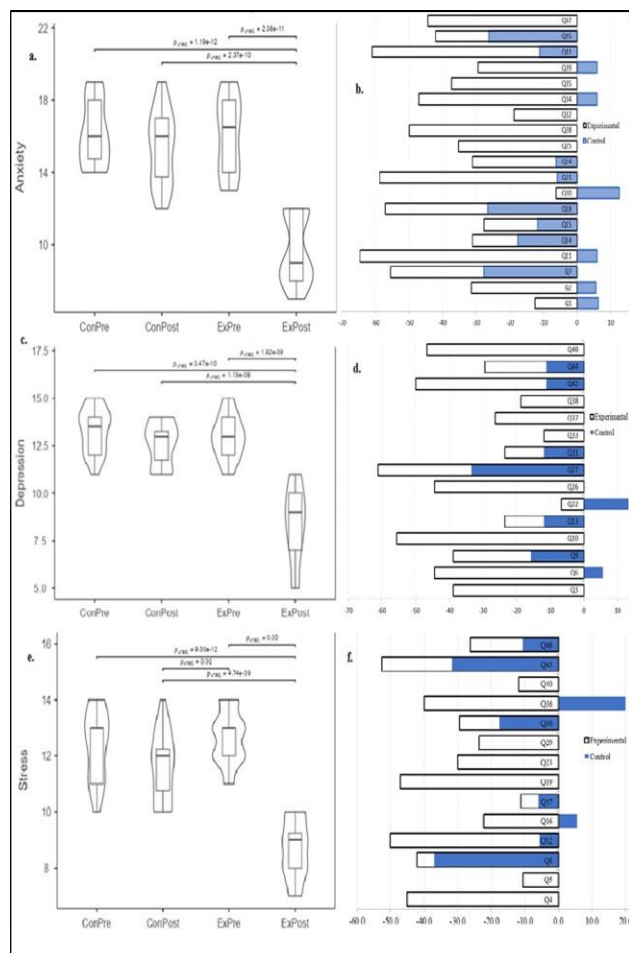
**Table 2: Descriptive statistics Anxiety, Depression and Stress among female prisoners**

Parameters	ConPre	ConPost	ExPre	ExPost	p value
Anxiety	16.15±1.18	15.35±1.04	16.05±1.82	9.75±1.87#abc	< .001
Depression	13.3±1.08	12.6±1.50	12.95±1.36	8.40±1.76#abc	< .001
Stress	12.40±1.05	11.6±1.10	12.65±0.99	8.65±1.87#abc	< .001

Table 2 highlights the impact of yogic intervention on anxiety, depression and stress among female prisoners, revealing significant improvements in the experimental group compared to the control group. While the control group exhibited minimal changes between pre- and post-test conditions, the experimental group showed a notable reduction in all three parameters after the intervention. The differences were highly significant when compared to both the control group and the experimental group's pre-test levels. These findings highlight the effectiveness of yoga in reducing psychological distress, making it a valuable tool for promoting mental health and rehabilitation in female prisoners.



Figure 1: Graphical comparisons of Anxiety, Depression and Stress among female prisoners



Note: a=comparisons of anxiety score among the group; b=percentage of change of anxiety score pre-post intervention, c=comparisons of depression score among the group; d=percentage of change of depression score pre-post intervention, e=comparisons of stress score among the group; f=percentage of change of stress score pre-post intervention

The results that came up from the stress, anxiety and depression scales by Pallavi Bhatnagar (Megha Singh & Pallavi Bhatnagar, 2016), provide sufficient validation that yoga is helpful in dealing with anxiety symptoms for female inmates. Scores after intervention were markedly lower on numerous anxiety indicators. Regarding Question 2, “Do you feel difficulty in breathing (like fast breathing, difficulty in breathing without working)?” there was a 47% reduction in scores which suggests that yoga helps ease the symptoms of breathlessness and respiratory discomfort due to anxiety. Question 11, “Do you often feel as if you are going to faint?” demonstrated

that a yoga intervention may help alleviate anxiety related symptoms showed a remarkable 70% reduction which suggests a greater degree of physical stability and reduced dizziness and fainting. Furthermore, Question 21, “Do you feel very nervous and anxious?” also showed a 52% reduction suggesting a marked decline in anxiety of that nature. And a Question 34, “Do you suffer from a stomach ache and indigestion?” showed a reduction of 52%, indicating that yoga is helpful in stress related gastrointestinal distress. Additionally, concerning question 41, “Do you perceive pressure/ heaviness in the chest?” received a 50% reduction, and for question 47, “Do you often feel nauseous?” there was a 44% reduction, both demonstrating that yoga helps not only with emotional symptoms of anxiety but also with physical ones. In general, the data most consistently pointed to the fact that yoga therapies tend to alleviate deeply rooted psychological issues, as well as stressors, to an enhanced sense of well-being among female prisoners.

The questionnaire used in the study demonstrating the effectiveness of yoga as an interventional strategy aimed at ameliorating depressive symptoms among female prisoners. The most striking post-intervention score reduction was noted for specific items which indicated specific covered accomplishments; these include psychological as well as physical marked improvements. In fact, “Can't feel anything good” (Item 3) recorded a decrease of as much as 39 percent suggesting marked improvement in emotional strength. Equally striking was “I often feel like I can't do anything” (Item 6) which showed a 50% reduction reflecting improved perceptions of self-efficacy. In the same way, “I often feel that my heart is sinking and I am sad” (Item 10) recorded a 55% reduction showing a significant decrease in profound sadness. Additionally, answers regarding “I feel sad and depressed” (Item 26) showed a decrease by 44% and “I often burst into tears without any reason” (Item 42) exhibited lesser scores by 39%. This suggests greater control over one's emotion. There was also a significant improvement in respondents' self-care, or mental health in relation to physical health, when Respondents “My health remains in a bad state” (Item 48) reported lesser scores by 47%. This data supports the holistic effects of yoga and reintegrates the consideration of depression and its complexities especially in relation to the imprisoned population.



Adopting yoga as a therapeutic approach has remarkable capability in alleviating stress symptoms of women prisoners as illustrated by the results from the ADSS-BSPSA questionnaire. Stress managing yoga interventions were marked with noteworthy emphasize, yoga also helped unwind tension. The percentage reductions in responses were as follows: “I have trouble relaxing” decreased by 44%, along with “Things get bad for me quickly” by 45%. Also, “I find that I have trouble tolerating interruptions in my work” showed a 47% reduction. These changes in responses indicate improvement in self-efficacy and emotion control. Most incredibly, a 60% reduction in “Even without wanting to, I am reminded of bad incidents again and again” shows how deeply yoga mitigates intrusive thoughts and trauma-related symptoms. As a whole, these findings confirm that yoga can serve as a comprehensive stress relief and psychologically help in correctional facilities.

#### 4. Discussion

Involvement of women in criminal activities illustrates a complex interaction of psychological, social and economic factors, which can significantly affect their mental health and psychological wellness (Nurse, 2003). Female prisoners at the Central Jail of Etawah, Uttar Pradesh, primarily originate from underprivileged socio-economic backgrounds, where poverty, inadequate educational attainment and restricted legal career prospects frequently drive women to commit nonviolent crimes such as theft, fraud or drug-related offences. These structural hindrances not only encourage crime but also exacerbate mental health crises which need multifaceted rehabilitation approaches. On the other side, trauma and abuse are crucial in defining the pathway of criminality for women (Tahseen & Sawalmeh, 2023). There is a considerable proportion of incarcerated women who have had their domestic lives marred by violence, sexual exploitation, and being blackmailed within relationships, causing severe mental trauma. Issues such as low self-esteem, identity disintegration, and a yearning for validation increase their vulnerability to criminal behavior (Cameranesi & Piotrowski, 2018). Psychological disorders like addiction and impulse control deepen these vulnerabilities which almost always lead to emotional anguish. In addition, feelings of hate and resentment against social norms combined with exposure to criminal environments shape their actions (Nurse, 2003). The length of stay in jail worsens these

difficulties for female offenders who face societal marginalization, shattered family ties, and inadequate mental health support. These issues pose a threat to their psychological wellbeing and make it difficult for them to reintegrate into society after incarceration. Therefore, addressing these problems requires treatment that is both rehabilitative and restorative.

Yogic practices can be a powerful tool in improving the psychological health and mental wellbeing of women prisoners (Danielly & Silverthorne, 2017). Trauma and stress relief alongside self-awareness can be achieved through thick mindfulness, meditation, breathing exercises, and asanas (Shohani et al., 2018). These techniques aid in the management of emotions, development of resilience, and enhancement of coping mechanisms, all of which are integral for dealing with the trauma and abuse. Additionally, having yoga as a part of rehabilitation programs for prisoners can improve their overall well-being, help them regain confidence, and prepare them for reintegration into society (Park & Kim, 2014). When trauma-informed care is paired with other supportive frameworks, their yoga-based programs might improve the mental health of convicted women and break the vicious cycle of socio-economic marginalization, psychological distress, and criminal activity. These programs actively advocate for addressing the root causes of female offending behavior while emphasizing rehabilitation to ensure better chances of successful reintegration.

The study aims to evaluate the impact of yoga on mental health issues related to anxiety, depression, and stress using the Anxiety, Depression, and Stress Scale (ADSS-BSPSA) among female inmates. Women's incarcerated populations are uniquely vulnerable to a range of mental health challenges due to the compounded stress of family separation, trauma, societal stigma, and their already existing mental health issues. Conventional treatment options do not adequately meet these layered needs, therefore more innovative solutions are required. This research demonstrates the impact of a 12-week yoga program involving asanas (postures), pranayama (breath control), meditation, and relaxation on participants. The results indicate participants' experienced heightened physiological health and psychological health as evidenced by reduced levels of anxiety, depression, and stress.



Yogic practices have shown to reduce hyper-arousal and improve emotional resilience through the modulation of the autonomic nervous system, enhancing mood via mindfulness and endorphin release (Stephens, 2019). The ADSS-BSPSA proved to be a valid instrument for monitoring these changes, confirming the enhancement through data within the parameters of the study. Such straightforward methods afford comprehensive rehabilitation in facilities with limited resources, like prisons. The research examines the effects of integrating yoga in correctional facilities designed to cultivate self-discipline, mental awareness, and self-soothing skills vital for societal re-entry (Shen, 2024).

The findings of this study suggest that the yoga intervention has a positive impact on improving the mental health and psychological wellbeing of female prisoners by alleviating anxiety, sadness and stress to a greater extent than the control group. The experimental group reported a notable drop in anxiety level from “High” to “Below Average,” while the control group showed only a marginal improvement. In the same manner, the experimental group achieved a considerable reduction in depression and stress levels, with both metrics categorized as “Below Average,” while the control group showed little no change. Results of this study support previous studies which emphasize the positive impact yoga has on mental wellbeing by indicating that practicing yoga enables better control of emotions, reduces negative feelings, and lessens mental health symptoms (Danielly & Silverthorne, 2017; Sathiyavathi et al, 2024). Norm-based studies draw attention to the lack of effect that traditional prison environments have on mental health, which is illustrated by the unchanged scores of the control group (Megha Singh & Pallavi Bhatnagar, 2016). These findings add to the developing literature encouraging the use of yoga as an easy and low-cost method to improve mental health in correctional facilities. As a result, well-being among inmates and staff within correctional facilities is improved while coping processes are adapted to reduce psychological discomfort.

Several studies have confirmed the positive effects of yoga on stress, anxiety, and depression for middle-aged and post-menopausal women (Nanduri & Ram, 2020; Park & Kim, 2014; Shohani et al., 2018). Stress, anxiety, and depression among women were all significantly lower with consistent yoga practice. Post-menopausal

women’s anxiety, stress, and depression symptoms were improved with yoga as delivered in the 10-week yoga intervention trial described by Bilderbeck and her colleagues (Bilderbeck et al., 2013). In another study, conducting a two-month yoga program was found to significantly reduce both state and trait anxiety (Javnbakht et al., 2009). Apart from the psychological benefits, yoga also improved some measures of physical fitness such as grip strength and balance, as well as self-esteem among middle-aged women (Park & Kim, 2014). The results suggest that yoga may be a useful complementary or alternative treatment for managing stress, anxiety, and depression in middle-aged and post-menopausal women. Recently, yoga in female prisoners has received attention and research has shown its promising impact on the mental health and psychological well-being of the inmates.

Due to trauma, social stigmas, and isolation, anxiety, depression, and stress levels are much higher for female inmates. Hence, adoption of holistic, non-invasive approaches, like yoga that combines physical postures, breathing, and meditation, has shown considerable promise in correctional facilities. Research indicates that yoga programs significantly reduce the stress and depression symptoms among incarcerated women, as well as boost self-awareness (Danielly & Silverthorne, 2017; Shohani et al., 2018). For example, the randomized controlled trial by Sathiyavathi et al. (2024) comparing the result of yoga to physical exercise found significantly improved clinical outcomes in anxiety, depression, emotion regulation, and overall affect (Sathiyavathi et al. 2024). In addition, a 12-week Iyengar yoga program also showed decreased depression and anxiety among participants (Harner et al., 2010). Although there are some areas where results have been mixed. For example, while Danielly and Silverthorne (2017) observed some beneficial changes, analyzing the self-control and rumination reduction, those changes were not always statistically significant. Regardless of these inconsistencies, there is broad agreement that yoga encourages improving cognitive- affective processes and self-emotional appraisal essential for regulating and managing emotions which is vital for recovery while reintegrating into society.

The implementation of yoga programs within prison settings may further promote social order in addition to personal benefits. Yoga has the ability to improve mental



health and, in turn, may decrease negative behaviors and enhance relationships between inmates, as well as between inmates and staff (Bilderbeck et al., 2013). This highlights its role as a supportive strategy in solving some of the problems that are ingrained within the prison system. Considering the findings are promising, this research idea intends to investigate the use of yoga in prisons, particularly its application for enduring changes and broad impact. This study plans to fill some of the gaps regarding the effectiveness of different yoga forms and aims to provide clear instructions on using yoga as a mitigation strategy to mental health issues in the correctional system. The data collected through the ADSS-BSPSA questionnaires strongly support the assumption that yoga helps to reduce anxiety symptoms experienced by female prisoners. The noteworthy decline in post-intervention scores for almost all items related to anxiety indicates that yoga is a comprehensive intervention which attempts to resolve the mental as well as the physical components of anxiety. From an elementary point of view, the reduction in breathing difficulties suggests that the yoga practice involves controlled breathing processes, particularly, in the form of pranayama, which reduces anxiety related respiratory symptoms.

This aligns with earlier studies claiming that managed breathing exercises help to regulate the autonomic nervous system, diminishing heart rate and improving respiratory functions in anxious people (Bilderbeck et al. 2013). In the same way, the improvement concerning feelings of faintness is in support of the hypothesis that yoga improves body stability, perhaps by enhancing overall body health, circulation, and decreasing the hyper-activated state predominant in anxiety disorders. In addition, being less nervous and less anxious illustrates the effect of yoga as an intervention for managing anxiety, underlying its potential as an effective anxiety intervention. The focus involved in the performance of yoga, in addition to the meditative aspect of it, enables concentration and heightens self-awareness, which has been proven to ease symptoms of generalized anxiety disorder (GAD). Yoga's effect on the physical symptoms of anxiety is also noted in the improved stomach pains and indigestion (Woodyard, 2011). Research has shown that chronic stress and anxiety tends to worsen stomach discomfort, and yoga is thought to alleviate gastrointestinal symptoms related to

stress due to its effects on the parasympathetic nervous system. The reduction of chest pressure and nausea emphasizes even more how yoga has the ability to relieve the physical symptoms of stress and anxiety. Somatic symptoms such as tightness of the chest and nausea are common as a result of anxiety and are associated with autonomic deregulations.

The alleviation of these physical symptoms may be aided by the improvement of parasympathetic activity as compared to sympathetic dominance (Udupa & Sathyaprabha, 2018). Compared to other works regarding the impact of yoga on anxiety symptoms, these outcomes seem to align with the literature. Teaching anxiety control involved postures, breathing, and meditation which are all part of yoga. The reduction of psychological symptoms such as anxiety and nervousness, as well as physical symptoms like breathlessness and tightness in the chest, suggest that yoga can be one of the integrative therapeutic modalities that may be helpful in high stress situations like prisons. These findings along with the other longitudinal studies exploring the impact of yoga on anxiety in correctional facilities need larger sample sizes and longer durations of research to make trustworthy conclusions.

The research demonstrated the ability of yoga as a holistic approach to alleviating depressive symptoms among female prisoners, resulting in notable improvements in psychosomatic health. Post evaluation showed marked reductions in depression and associated emotional volatility suggesting enhanced emotional regulation and self-efficacy. Participants reported a decrease in chronic sorrow, helplessness, and emotional volatility, hence supporting yoga's possible impact on emotional balance (Megha Singh & Pallavi Bhatnagar, 2016). In addition to these findings, the physically improved health, which is closely linked to mental health, underlines the benefits of this physical activity of yoga. These findings support the use of yoga in rehabilitation with inmates providing an integrated solution to the complex psychosomatic problems faced by incarcerated people. This complements abundant evidence regarding the application of yoga as a profound mental health and resilience-increasing intervention for disadvantaged populations, showing its value in promoting general mental health and well-being. The results obtained post-intervention align with existing studies on yoga's multifaceted benefits for mental health.



Improved relaxation abilities among participants corroborate studies showing the effectiveness of yoga in reducing physiological arousal and promoting relaxation through deep breathing and mindfulness. The lower rate of situations escalating to outbursts of anger indicative of better emotional control also aligns with the findings of Childs-Fegredo et al. (2023). Emotion regulation is enhanced through self-awareness and emotional resilience which can also be managed through yoga practices (Childs-Fegredo et al. 2023). The self-reported increased ability to tolerate disruptions observed in participants indicates that yoga also helps develop cognitive flexibility and focus. This aligns with Sfendla et al.'s (2018) findings that further corroborate the impact of yoga on attention and distractibility, especially in high-stress environments (Sfendla et al., 2018). The reduction of intrusive thoughts and reminders of past trauma supports the increasing evidence of yoga's efficacy in trauma recovery. Trauma healing is facilitated because yoga-based therapies combine bodily awareness and mindfulness (Vandana Jain & Jyotsna Sharma, 2017). These findings together corroborate yoga's effectiveness as a multifaceted tool to alleviate stress and improve psychological resilience in correctional facilities. Further research could explore the impact of these therapies over time and the effects of integrating yoga into holistic rehabilitation strategies designed for prisoners. Subsequent studies could improve the design by increasing sample sizes, examining post-incarceration long-term effects, and using yoga in comparison to other therapeutic interventions to establish evidence of its broader relevance. This study illustrates that yoga meets the pressing mental health needs of incarcerated women while enabling complete recovery and social reintegration.

### **Research Contribution:**

The research contributes to the growing evidence of non-pharmacological rehabilitation treatments for women in prison by demonstrating the therapeutic value of yoga as a rehabilitative exercise. The reduction of anxiety, despair, and stress within the study's female prisoner population demonstrates that yoga can be an effective intervention for mental health problems faced by imprisoned individuals. The results support the application of trauma-informed yoga in correctional settings for the enhancement of socio-emotional self-regulation and management of complex stress responses.

The research provides evidence that can impact prison policy by suggesting that comprehensive rehabilitation plans need to include yoga to improve psychological health and optimal custodial reintegration.

### **Limitations:**

Due to the focus on one correctional facility, the sample of female inmates was too small to be of use in other contexts. In addition, the study oriented around the two months intervention's impacts without assessing the sustainability of its gains on mental health in the long term. Not having comparison groups with counselors or participants receiving cognitive behavioral therapy made it harder to examine the effectiveness of yoga against other treatment modalities. It is likely that the data collected from self-report questionnaires was contaminated in one way or another, as respondents may have had the inclination to answer in a way that is considered socially favorable or acceptable. Moreover, factors like personal drive or motivation, degree of previous mental health treatment received, and availability of social support were left uncontrolled, which could have been pivotal in shaping the study's findings.

### **Recommendations:**

Further studies should consider increasing the sample size and adding multiple prison locations in order to generalize the findings more effectively. Utilizing a post longitudinal design would help capture information regarding the sustained impact of yoga therapies on mental health and post-incarceration evaluation outcomes. Comparative investigations incorporating multiple treatment approaches would aid in showcasing the effectiveness of yoga in relative terms. The inclusion of physiological measures like heart rate variability or cortisol concentrations would add value by quantifying the impact of yoga on stress and anxiety. Moreover, a qualitative study could investigate participants' narratives to gain a comprehensive understanding of the emotional and psychological impacts of yoga. Refine gendered responses and the cultural sensitivity of yoga therapy could broaden its application across diverse incarceration systems.

### **Conclusion:**

The study concludes that yoga significantly improved the mental health of female prisoners, reducing anxiety,



depression and stress symptoms. The two months yoga intervention, which included asanas, pranayama, meditation and relaxation techniques, led to enhanced emotional regulation, self-awareness and psychological resilience. Yoga-based stress management and mindfulness practices promote emotional resilience and cognitive flexibility, which help to reduce the trauma in female prisoners. Its accessibility, cost-effectiveness, and holistic nature make it a promising rehabilitation approach. Future research with larger sample sizes, comparative treatment analyses and longitudinal assessments is needed to further validate the long-term benefits of yoga interventions. Integrating yoga into prison rehabilitation programs can foster emotional healing and personal growth, contributing to more effective and compassionate correctional systems.

**Conflict of interest:** The authors declare no conflict of interest for the study.

**Acknowledgement:** All the authors express sincere gratitude to all participants of the study.

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