

The Therapeutic Role of Asanas in Reducing Suicidal Ideation Among Transgender Individuals: A Quantitative Investigation

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Abstract: Transgender individuals experience disproportionately high rates of suicidal ideation, largely due to chronic societal discrimination, identity-related stress, and limited access to culturally sensitive mental health care. Traditional interventions often fall short in addressing the complex psychosocial needs of this population. This study investigates the therapeutic efficacy of yoga asanas in reducing suicidal ideation among transgender individuals, addressing a critical gap in existing literature.

A quantitative research design employing mixed-design ANOVA was implemented to assess the impact of a 12-week yoga asana intervention on suicidal ideation, measured using the Suicidal Ideation Attributes Scale (SIDAS). A purposive sample of 64 transgender participants from Delhi-NCR was divided into two groups: Asanas ($n = 32$) and Control ($n = 32$). Participants in the intervention group engaged in daily, guided yoga sessions focusing on traditional Hatha Yoga postures.

Descriptive and inferential results revealed a statistically significant reduction in suicidal ideation scores in the Asanas group compared to the Control group ($p = .004$), with a mean reduction of 7.72 points. These findings underscore the psychological and physiological benefits of yoga, including improved emotional regulation and reduced psychological distress.

This study provides the first empirical evidence supporting yoga asanas as a non-pharmacological, body-centered intervention to mitigate suicidal ideation in transgender populations. It highlights the potential of yoga-based therapies as culturally attuned, cost-effective mental health strategies. Further research is recommended with larger, more diverse samples and longer follow-up periods to validate and expand upon these promising results..

Keywords: Transgender mental health, suicidal ideation, Hatha Yoga asanas, psychological intervention, mind-body therapy, emotional regulation.

I. INTRODUCTION

Background of the Study: Suicidal ideation, defined as thoughts or considerations of ending one's own life, remains alarmingly prevalent among transgender individuals. Numerous studies indicate that transgender people experience significantly higher rates of suicidal ideation compared to the general population, primarily driven by systemic discrimination, social stigma, and chronic identity-related stressors. These mental health disparities, evidenced by higher levels of anxiety, depression, and stress, demand tailored, and effective intervention approaches specifically designed for this vulnerable population.

While traditional mental health interventions such as psychotherapy and pharmacological treatments are widely used, their effectiveness for transgender populations is often limited due to a lack of cultural competence, inclusivity, and understanding of gender identity-related complexities. Consequently, there is an urgent need to explore alternative, culturally sensitive, and holistic approaches capable of addressing the unique psychological challenges of transgender individuals, especially regarding suicidal ideation.



Mental Health Issues Among Transgender Individuals: Research consistently highlights disproportionately high rates of mental health issues, including depression, anxiety, stress, and suicidal ideation among transgender populations globally and within India (Joshi et al., 2022; Bretherton et al., 2021; Halli et al., 2021). A 2021 article on suicide suggests that more than half of young transgender and non-binary people have thought about ending their lives by committing suicide. Based on a survey conducted in this research paper, it is said that 29 percent of the people involved in the research had attempted suicide due to being upset with their lives. And factors such as barriers to care, harassment and gender discrimination were mentioned as the reason behind such thoughts (Bretherton et al., 2021). The risk of probable anxiety disorder in transgender people was almost three times higher than the general population, indicating a very serious anxiety condition. Anxiety symptoms were found to be significantly related to interpersonal functioning and low self-esteem (Bouman et al., 2017). Discrimination, societal stigma, rejection, and minority stress significantly exacerbate mental health conditions in transgender communities, contributing to chronic emotional distress and an increased risk of suicidal ideation. These persistent psychosocial stressors underline the critical need for effective, culturally sensitive, and targeted interventions (Zheng et al., 2023).

Overview of Therapeutic Yoga Practices: Yoga, particularly Hatha Yoga, is an ancient practice originating from India that emphasizes physical postures (asanas), breathing techniques, and meditation. Traditionally aimed at achieving physical and mental balance, yoga has increasingly been recognized by contemporary research for its psychological benefits. Empirical studies highlight yoga's efficacy in reducing symptoms of depression, anxiety, stress, and enhancing overall life satisfaction (Cramer et al., 2018; Sengupta, 2012). Specifically, asanas have been noted for their role in promoting self-awareness, improving emotional regulation, and reducing stress responses through enhanced physiological and psychological resilience (Dhanraj, 2020; Spinazzola et al., 2011). Yogasanas are effective in improving blood circulation by massaging various glands and internal organs, stimulating the internal organs which helps in keeping diseases at bay. It also helps in removing impurities and providing nutrition in a better way. The effects of yoga are extremely beneficial in increasing the energy level of the body and achieving mental peace (Koch, 2020). Regular practice of yogasanas plays an important role in reducing harmful chemicals in the body which can improve physical and mental fitness and enhance the enjoyment of a healthy long life (Hayes & Chase, 2010).

Gap in Literature: Despite substantial evidence supporting the psychological benefits of yoga practices, there remains a notable absence of research explicitly exploring the effectiveness of yoga asanas in addressing suicidal ideation within transgender populations. This gap represents a significant oversight, given the heightened vulnerability of transgender individuals to suicidal ideation and the proven general mental health benefits of yoga. This study aims to directly address this gap, providing critical empirical data on the potential of asanas as a therapeutic intervention specifically tailored to the mental health needs of transgender communities.

Rationale of the Study: Transgender individuals face distinct psychological challenges rooted in ongoing societal discrimination and internal conflicts associated with gender identity. These issues often exacerbate suicidal thoughts, underscoring the necessity for specialized interventions. Yoga, specifically the practice of asanas (physical postures), emerges as a promising therapeutic alternative due to its holistic approach that integrates physical, psychological, and emotional health. Asanas, known for fostering self-awareness, emotional regulation, and mindfulness, provide potential benefits uniquely suited to addressing suicidal ideation by promoting resilience and mental stability.

Aim and Objectives: The primary aim of this study is to assess the therapeutic efficacy of yoga asanas in reducing suicidal ideation among transgender individuals. The specific objectives include:

1. Measuring baseline and post-intervention levels of suicidal ideation among transgender participants using the Suicidal Ideation Attributes Scale (SIDAS).
2. Employing statistical analysis through a mixed-design ANOVA to evaluate the impact and effectiveness of yoga asanas as an intervention strategy to mitigate suicidal ideation.

II. METHODOLOGY

Research Design: Although this paper is a part of a larger research study, a quantitative research approach using mixed-design ANOVA has been used, specifically designed to measure the effectiveness of yoga asanas on suicidal thoughts in transgender individuals. The quantitative approach has been chosen due to its robustness in objectively



measuring the magnitude and significance of change in suicidal thoughts, providing clear statistical insights into the efficacy of the intervention. The mixed-design ANOVA method allows for comparison of suicidal thoughts scores within participants over time (before and after the intervention) and between the intervention and control groups.

Participants: As mentioned earlier, this paper is a part of a larger research study in which a purposive sampling method was used to recruit a total of 128 transgender participants from the Delhi region, with equal distribution across four groups ($n=32$ each): control, asanas only, pranayama only, and combined (asanas and pranayama). However, this paper analyzed only the data from the participants in the asanas group and the control group to clearly explain the impact of asana practice on participants' suicidal thoughts. The demographic information collected included age, gender identity specific information and duration of experiencing suicidal thoughts.

Intervention Procedure: Participants in the asana group attended structured yoga sessions for 60 minutes each day, 6 times a week, for a period of 12 consecutive weeks. Yoga practice typically involves the practice of traditional asanas, including standing poses, spinal twisting asanas, forward and backward bending asanas, core strengthening asanas and combined with sitting poses. These included Surya Namaskar for warm-up and Shavasana at the end of the yoga practice for relaxation. Each session was guided by a certified yoga instructor, with emphasis on proper alignment, breathing techniques, mindfulness and relaxation. The control group was given no intervention and continued with their normal daily routine.

Data Collection Instruments: The Suicidal Ideation Attributes Scale (SIDAS), a validated and reliable measure, was used to assess participants' levels of suicidal ideation at baseline and post-intervention. SIDAS consists of structured items designed to quantify the frequency, controllability, closeness to attempt, distress, and impact of suicidal thoughts (van Spijker et al., 2014). The tool's sensitivity and specificity make it an ideal instrument for precisely capturing changes in suicidal ideation.

Ethical Considerations: The study obtained ethical approval from the Institutional Review Board (IRB) before participant recruitment. All participants provided informed consent after being clearly briefed on the purpose, procedures, potential risks, and confidentiality assurances of the study. Special attention was given to ensuring confidentiality, privacy, and respect for participants' identities and mental health conditions. Participants were informed of their right to withdraw from the study at any point without penalty. Comprehensive support and appropriate referrals were available to participants experiencing acute distress during or after the intervention.

III. RESULTS

The findings from both descriptive and inferential analyses strongly indicate that the practice of yoga asanas led to a statistically significant and clinically meaningful reduction in suicidal ideation among transgender individuals when compared to no intervention.

Descriptive statistics show that both the Control and Asanas groups began the intervention with comparable baseline levels of suicidal ideation (Control: $M = 24.00$, $SD = 6.51$; Asanas: $M = 23.50$, $SD = 7.77$), establishing a balanced starting point for comparison. However, after the intervention, the Control Group experienced no meaningful change, with a slight increase in mean score to 24.94 ($SD = 7.03$). In contrast, the Asanas Group exhibited a substantial drop in suicidal ideation, with the mean score decreasing to 15.78 ($SD = 4.09$) a net improvement of 7.72 points, indicating the effectiveness of the intervention in alleviating psychological distress.

Inferential statistics reinforce these findings. A pairwise comparison revealed a mean difference of 4.828 between the Control and Asanas groups, with a standard error of 1.381, and a significance value ($p = .004$). The 95% confidence interval (1.126 to 8.530) did not include zero, confirming the reliability of this difference and ruling out the likelihood of random variation. The statistically significant outcome clearly highlights that the reduction in suicidal ideation observed in the Asanas group was not due to chance but rather a result of the structured yoga practice.

These converging lines of evidence provide robust empirical support for the therapeutic value of yoga asanas. The dramatic improvement in the Asanas Group, contrasted with the unchanged or worsened scores in the Control Group, illustrates how physical postures with proper breath-based awareness and mindfulness intrinsic to yoga may foster emotional regulation, resilience, and psychological relief in transgender individuals at risk of suicidal ideation.



Key Findings

- The study found that yoga asanas significantly reduced suicidal ideation among transgender individuals as compared to the control group, which showed no meaningful change in scores.
- Participants in the Asanas Group demonstrated a substantial reduction in suicidal ideation from pre- to post-intervention, indicating the effectiveness of the intervention.
- Inferential analysis confirmed the statistical significance of the reduction in suicidal ideation for the Asanas Group, with a mean difference that was significant at the 0.05 level.
- The Control Group exhibited a slight increase in suicidal ideation scores, reinforcing the contrast in outcomes between those who received the intervention and those who did not.
- The baseline equivalence of suicidal ideation scores across all groups supports the internal validity of the intervention's observed impact.
- Overall, the findings provide empirical evidence that structured practice of yoga asanas alone can significantly reduce suicidal ideation among transgender individuals within a controlled research setting.

IV. DISCUSSION

Interpretation of Results: The results of this study provide robust evidence that the practice of yoga asanas significantly reduces suicidal ideation among transgender individuals. Participants in the Asanas intervention group exhibited a marked decline in suicidal ideation scores from pre- to post-intervention, while the Control group showed no meaningful improvement. These findings are supported by both descriptive and inferential statistical analyses, including a statistically significant mean difference ($p = .004$) between the Control and Asanas groups, with a 95% confidence interval confirming the reliability of the effect.

The observed reduction in suicidal ideation in the Asanas group suggests that regular engagement in structured physical postures can contribute to psychological relief by promoting self-regulation, physical relaxation, and emotional balance. These results are consistent with prior studies that have demonstrated the mental health benefits of yoga practices. For instance, Cramer et al. (2018) reported that yoga interventions are effective in reducing symptoms of depression and anxiety across diverse populations. Similarly, Franklin et al. (2018) found that regular practice of asanas enhances emotional resilience and stress tolerance.

The findings of the present study extend this existing body of literature by providing the first known empirical evidence that yoga asanas alone without adjunctive therapies can significantly reduce suicidal ideation specifically among transgender individuals, a population disproportionately affected by mental health challenges (Bretherton et al., 2021; Aryal, 2022). This demonstrates the potential of asana-based interventions to serve as a culturally adaptable and accessible tool within mental health strategies tailored to gender-diverse populations.

Theoretical Implications

The findings of this study suggest that the observed reduction in suicidal ideation among transgender individuals following asana-based interventions can be attributed to both psychological and physiological mechanisms. From a psychological perspective, yoga asanas promote mindfulness, interoceptive awareness, and introspective regulation—capacities known to modulate affective responses and reduce maladaptive thought patterns associated with suicidal ideation (Sengupta, 2012; Cramer et al., 2018).

Physiologically, consistent engagement in asanas has been shown to improve autonomic nervous system balance by enhancing parasympathetic tone and reducing sympathetic overactivation, thus facilitating relaxation and homeostasis (Streeter et al., 2012). This shift has been correlated with decreased cortisol levels and improved vagal tone both of which are associated with reduced psychological distress and enhanced emotion regulation, key factors in mitigating suicidal ideation (Dhanraj, 2020).

For transgender individuals who often contend with chronic stressors such as gender dysphoria, societal rejection, and minority stress (Hall et al., 2021) this body-mind integration provided by yoga may function as a stabilizing force. The



physical grounding, rhythmic breathing, and mindful movement inherent in asana practice foster resilience and internal equilibrium, potentially reducing the intensity and frequency of suicidal thoughts.

Practical Implications: The findings of this study underscore the necessity of incorporating yoga-based practices, specifically asanas, into mainstream mental health support programs for transgender individuals. Health practitioners, psychologists, community centers, and LGBTQ+ advocacy organizations can use structured asana routines as complementary therapies alongside counseling and psychosocial support. Policymakers and transgender rights organizations should also consider supporting the inclusion of yoga programs in healthcare policies and community wellness initiatives.

Limitations: Despite the promising results, this study is not without limitations. The sample size was limited to 32 in asanas group and 32 in control group participants from the Delhi region, which may affect the generalizability of the findings to broader transgender populations. Additionally, the intervention period of twelve weeks, while effective, was relatively short, and longer-term follow-up data could provide further insights into the sustained impact of asanas. Future research should consider expanding the sample size, diversifying the geographical reach, and exploring the effects of long-term yoga interventions on suicidal ideation.

V. CONCLUSION

This study provides compelling evidence supporting the therapeutic efficacy of yoga asanas in reducing suicidal ideation among transgender individuals. The Asanas intervention group showed a statistically significant decline in suicidal ideation levels compared to the Control group, highlighting the transformative potential of incorporating structured yoga practices into mental health care for transgender populations.

The research reinforces the unique value of asanas as a non-invasive, cost-effective, and holistic intervention capable of fostering emotional regulation, psychological resilience, and self-awareness factors crucial in mitigating suicidal ideation. These findings offer practical insights for mental health practitioners and support the integration of yoga-based therapies within existing support frameworks for transgender communities.

Given the limitations regarding sample size and geographic focus, further research is warranted to confirm these findings across more diverse and larger transgender populations. Future investigations should also explore the long-term benefits of consistent asana practice, the differential effects across gender identities within the transgender spectrum, and the integration of yoga with other mental health interventions.

By addressing a critical gap in the literature, this study contributes meaningful knowledge to the field of mental health and gender studies, underscoring the promise of yoga as a culturally attuned and accessible tool for suicide prevention in marginalized populations.

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