

Effect of Yoga on Quality of Life among Alcohol Withdrawal Clients Attending Selected De-Addiction Centres in Bangalore: A Pre-Experimental Study

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ABSTRACT

Background: Alcohol use disorder is a chronic biopsychosocial condition associated with substantial psychological, physical and social consequences. The withdrawal period may further compromise sleep, mood, physical comfort, social functioning and perceived well-being. Yoga has been explored as a complementary, low-cost approach that may support emotional regulation, relaxation and recovery. The present study examined whether a structured yoga intervention could improve quality of life among alcohol withdrawal clients attending selected de-addiction centres in Bangalore.

Objectives: The objectives were to assess pre-test and post-test quality-of-life levels, evaluate the effectiveness of a structured yoga intervention, and determine the association between pre-test quality-of-life level and selected demographic variables.

Methods: A quantitative evaluative approach using a pre-experimental one-group pre-test–post-test design was used. Fifty alcohol withdrawal clients were selected through non-probability purposive sampling. Quality of life was assessed with a structured WHOQOL-BREF-based tool covering physical, psychological, social and environmental aspects. The intervention incorporated Anulom-Vilom, Kapalbhati, Bhramari, Tadasana, Balasana, Bhujangasana, Shavasana, guided meditation/mindfulness and Yoga Nidra in a 50–60-minute structured session. Descriptive statistics, paired t-test and chi-square test were used.

Results: Before intervention, 70% of clients had poor quality of life and 30% had average quality of life; none had good quality of life. After the yoga intervention, 90% had good quality of life and 10%

had average quality of life, with none remaining in the poor category. Mean quality-of-life score increased from 38.60 ± 4.84 to 48.04 ± 2.49 , with a mean gain of 9.44 and paired t-value of 10.14 ($p < 0.05$). Educational status showed a statistically significant association with pre-test quality of life, whereas the other reported demographic variables did not.

Conclusion: The structured yoga intervention was associated with a significant improvement in quality of life among the participating alcohol withdrawal clients. The findings support yoga as a feasible complementary strategy that psychiatric nurses can integrate into de-addiction programmes alongside established clinical care.

Keywords: Yoga; Quality of life; Alcohol withdrawal; De-addiction; Psychiatric nursing; Pre-experimental study

INTRODUCTION

Alcohol-related problems remain an important challenge for mental-health and de-addiction services because the consequences extend beyond alcohol consumption itself. The condition affects behavioural control, emotional stability, physical health, family relationships and participation in social and occupational roles. In the context of withdrawal, a reduction or cessation of alcohol intake may be followed by a cluster of symptoms that range from autonomic overactivity, tremor, insomnia, agitation and anxiety to severe manifestations such as hallucinations, seizures and delirium tremens. Becker (2008) described alcohol dependence and withdrawal as closely related processes in which withdrawal symptoms can contribute to continued drinking and relapse risk. Kattimani et al. (2013) and Sachdeva et al. (2015) similarly highlighted the importance of systematic clinical management during withdrawal.

Quality of life is particularly relevant in alcohol recovery because successful management cannot be judged only by reduction of withdrawal symptoms. A client may become medically stable while continuing to experience low mood, anxiety, disturbed sleep, reduced confidence, strained relationships, occupational difficulties and dissatisfaction with the environment. Castillo-Carniglia et al. (2019) noted that alcohol use disorder commonly occurs with psychiatric comorbidity, which can further affect functioning and well-being. Keyes et al. (2022) also linked stressful life experiences with alcohol consumption and alcohol use disorders, supporting the need for recovery strategies that address stress and coping rather than focusing exclusively on alcohol intake.

Yoga is increasingly considered within complementary and mind-body approaches because it combines controlled breathing, physical postures, attention training and relaxation. Balasubramaniam et al. (2013) reviewed yoga in neuropsychiatric conditions and described its potential relevance to psychological and behavioural well-being. Woodyard (2011) discussed the therapeutic effects of yoga in relation to quality of life, while Bhavanani et al. (2014) described yoga and other mind-body practices as approaches that may support health through interaction between physical and psychological processes. These perspectives provide a rationale for examining yoga as an adjunct rather than a replacement for established de-addiction treatment.

The present study focuses specifically on alcohol withdrawal clients attending selected de-addiction centres in Bangalore. The intervention combines pranayama, selected asanas, guided meditation or mindfulness and Yoga Nidra. Such a structured package is potentially practical in a nursing setting because the components can be taught in a planned sequence and adapted to the client's tolerance and clinical status. Muniyandi (2019) reported the use of pranayama in relation to anxiety among alcohol-dependent clients, while Varambally et al. (2019) and Khanna et al. (2022) have reported yoga-based approaches in alcohol-dependence care.

The study is therefore important from a psychiatric nursing perspective. Nurses frequently observe clients throughout the withdrawal and rehabilitation process and can provide education, emotional support, therapeutic communication and structured non-pharmacological activities. Gangadhar (2023) discussed evidence-based integration of yoga into psychiatric practice, supporting the broader concept that complementary approaches may be incorporated into mental-health services when appropriately structured and clinically supervised.

The present work also responds to the need for simple interventions that can be delivered in resource-constrained de-addiction settings. The original study reported that the selected centres faced practical challenges including client load and infrastructural constraints. Ahmed et al. (2017) and Narayan et al. (2019) described broader urban challenges in substance-use-disorder services, making feasible adjunctive approaches relevant to service planning. Within this context, yoga may offer a structured activity that targets relaxation, attention and body awareness while also giving clients an active role in their recovery.

Rationale of the Study

The rationale for the intervention rests on the observation that alcohol withdrawal and early recovery involve both physical and psychological discomfort. Sinha (2014) emphasized the role of stress and craving processes in addiction, while Heilig et al. (2015) described the relationship between withdrawal, prolonged abstinence and negative affect. If stress and negative affect remain prominent, the client's perceived quality of life may remain poor even after immediate withdrawal symptoms are controlled. A complementary programme that emphasizes breathing, relaxation, attention and gentle physical activity may therefore have value as part of holistic nursing care.

The present study does not position yoga as a substitute for medical withdrawal management. Rather, the structured intervention is considered an adjunct within de-addiction care. This distinction is important because severe withdrawal may require pharmacological and emergency management, and the original study excluded clients with severe withdrawal symptoms or those receiving pharmacological treatment specifically for withdrawal. Thus, the observed improvement should be interpreted within the defined study population and intervention conditions.

Conceptual Understanding of Yoga in Recovery

The intervention used four interconnected elements: pranayama, asanas, meditation or mindfulness, and Yoga Nidra. Pranayama introduces deliberate breathing patterns, while asanas provide structured physical movement and postural practice. Meditation and mindfulness focus attention and awareness, and Yoga Nidra emphasizes guided relaxation. Smith et al. (2020) discussed yoga in relation to psychophysiological determinants of well-being, while Pascoe et al. (2017) examined yoga and mindfulness-based stress-reduction approaches in relation to physiological measures of stress.

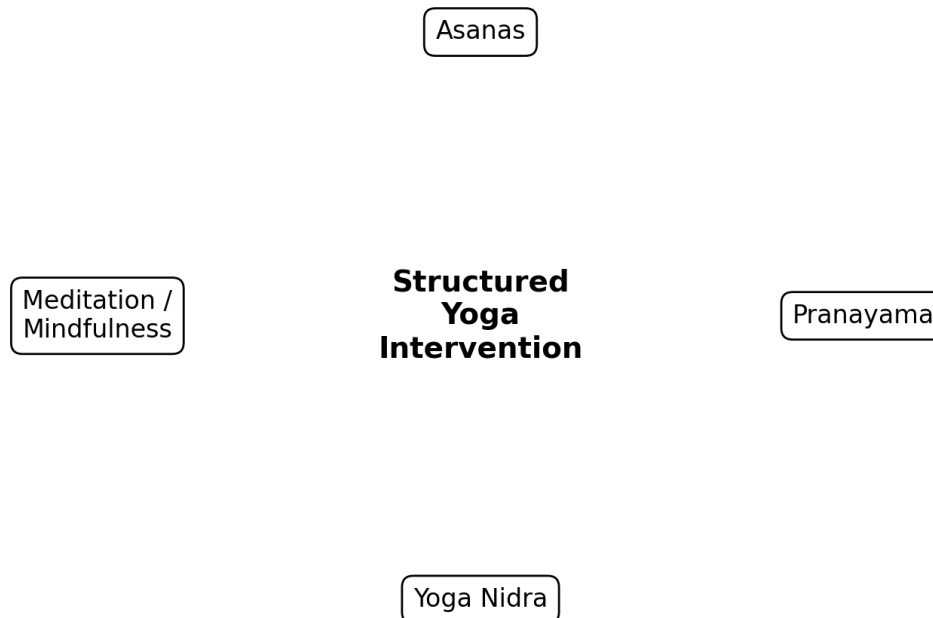


Figure 1. Structured components of the yoga intervention used in the study.

The combined format is relevant because quality of life is multidimensional. Physical postures may contribute to physical engagement, breathing practices may provide a structured relaxation activity, and meditation and Yoga Nidra may support attention and rest. The study therefore assessed quality of life rather than a single symptom, allowing the overall effect to be examined across several aspects of functioning.

Objectives

- To assess the pre-test level of quality of life among alcohol withdrawal clients.
- To assess the post-test level of quality of life among alcohol withdrawal clients.
- To evaluate the effectiveness of yoga on the quality of life of alcohol withdrawal clients.
- To determine the association between pre-test quality-of-life level and selected socio-demographic variables.

Hypotheses

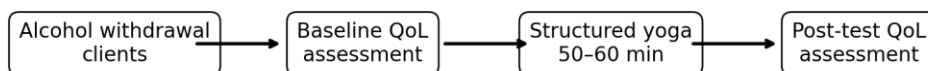
H₁: The post-test quality-of-life score of alcohol withdrawal clients will be significantly higher than the pre-test score.

H₂: There will be a significant association between pre-test quality-of-life level and selected demographic variables.

MATERIALS AND METHODS

Research Approach and Design

A quantitative evaluative research approach was adopted using a pre-experimental one-group pre-test–post-test design represented as $O_1 - X - O_2$. In this structure, O_1 represents baseline quality-of-life assessment, X represents the structured yoga intervention and O_2 represents the post-intervention assessment. The design permitted the researchers to compare each participant's quality-of-life status before and after exposure to the intervention.



One-group pre-test–post-test design ($O_1 - X - O_2$)

Figure 2. Schematic representation of the one-group pre-test–post-test study pathway.

Research Setting

The study was conducted in selected de-addiction centres in Bangalore, Karnataka. The centres were selected on the basis of geographical proximity, feasibility and availability of eligible alcohol

withdrawal clients. The setting was appropriate for the study because participants were receiving care in an environment focused on de-addiction and recovery.

Population, Sample and Sampling

The study included 50 alcohol withdrawal clients. Participants were recruited through non-probability purposive sampling. The inclusion criteria were willingness to participate, availability during data collection, ability to communicate in English or Kannada and interest in the yoga intervention. Clients who were seriously ill, unwilling to participate, experiencing severe withdrawal symptoms or receiving pharmacological treatment specifically for withdrawal were excluded.

Table 1. Sampling and participant eligibility characteristics.

Sampling element	Description
Sample size	50 alcohol withdrawal clients
Sampling method	Non-probability purposive sampling
Languages	English or Kannada
Inclusion focus	Willing, available, communicative and interested in yoga
Major exclusions	Serious illness, severe withdrawal, unwillingness, withdrawal-specific pharmacological treatment

Study Variables

The independent variable was the structured yoga intervention. It consisted of breathing exercises (Anulom-Vilom, Kapalabhati and Bhramari), selected asanas (Tadasana, Balasana, Bhujangasana and Shavasana), guided meditation or mindfulness and Yoga Nidra. Each session lasted approximately 50–60 minutes. The dependent variable was quality of life. Demographic and clinical characteristics included age, religion, marital status, educational status, monthly income, occupational status, alcohol dependence severity and years of alcohol consumption and were treated as extraneous variables.

Data Collection Tool

Quality of life was assessed using a structured questionnaire based on the WHOQOL-BREF. Part I collected socio-demographic information, while Part II assessed quality of life across physical health,

psychological well-being, social relationships and environmental aspects using a five-point Likert response format. The use of a multidimensional quality-of-life framework was appropriate because recovery from alcohol dependence involves several interconnected areas of functioning.

Content validity was established through review by nine experts comprising seven experts in mental-health nursing, one psychiatrist and one research statistician. The instrument was refined for clarity according to the recommendations of the expert panel. This process strengthened the content relevance of the tool for the study population while retaining the intended quality-of-life domains.

Intervention Protocol

The structured yoga intervention was organized around breathing, physical postures, focused attention and relaxation. Anulom-Vilom, Kapalabhati and Bhramari were used as breathing practices; Tadasana, Balasana, Bhujangasana and Shavasana formed the asana component; guided meditation and mindfulness were used for attentional regulation; and Yoga Nidra was included for guided relaxation. The overall session duration was 50–60 minutes.

The intervention was designed as a nursing-administered complementary activity. Its structure allowed the nurse to provide instruction, observe participation and reinforce regular engagement. Riley et al. (2015), Greene (2021) and Jangid (2019) have discussed yoga as an adjunctive or holistic approach in addiction treatment and rehabilitation. Park et al. (2022) and Posadzki et al. (2024) further provide systematic-review perspectives on yoga and substance-use-disorder recovery.

Data Collection Procedure and Ethical Considerations

Institutional and administrative permissions were obtained before data collection. Participants provided informed consent. Baseline quality-of-life information was collected before the intervention, followed by the structured yoga programme and subsequent post-test assessment using the same quality-of-life tool. The procedure maintained the sequence required by the pre-experimental design.

Ethically, participation was based on willingness and informed consent, and clients with severe withdrawal were excluded. This is particularly important because alcohol withdrawal can become medically serious. The study therefore treated yoga as a complementary intervention within a defined and clinically selected group rather than as emergency treatment for severe withdrawal.

Statistical Analysis

Data were summarized using frequency, percentage, mean and standard deviation. A paired t-test was used to compare pre-test and post-test quality-of-life scores, while chi-square analysis was used to examine the association between pre-test quality-of-life levels and selected demographic variables. A p-value below 0.05 was considered statistically significant.

RESULTS

Socio-Demographic Characteristics

Among the 50 participants, the largest age group was 21–30 years (40%), followed by clients above 41 years (28%), those aged 31–40 years (18%) and those aged 18–20 years (14%). Half of the participants were Hindu (50%), 30% were Christian and 20% were Muslim. With respect to occupation, 40% were employed, 24% were unskilled, 20% were unemployed and 16% were skilled. Most participants (70%) resided in urban areas.

Educational status showed that 40% had no formal education, 22% had secondary education, 20% had primary education, 14% had higher secondary education and 4% were graduates. Alcohol dependence was reported as high in 44%, medium in 40% and low in approximately 13% of participants, while 44% had consumed alcohol for 1–4 years, 40% for five years or more and approximately 13% for less than one year.

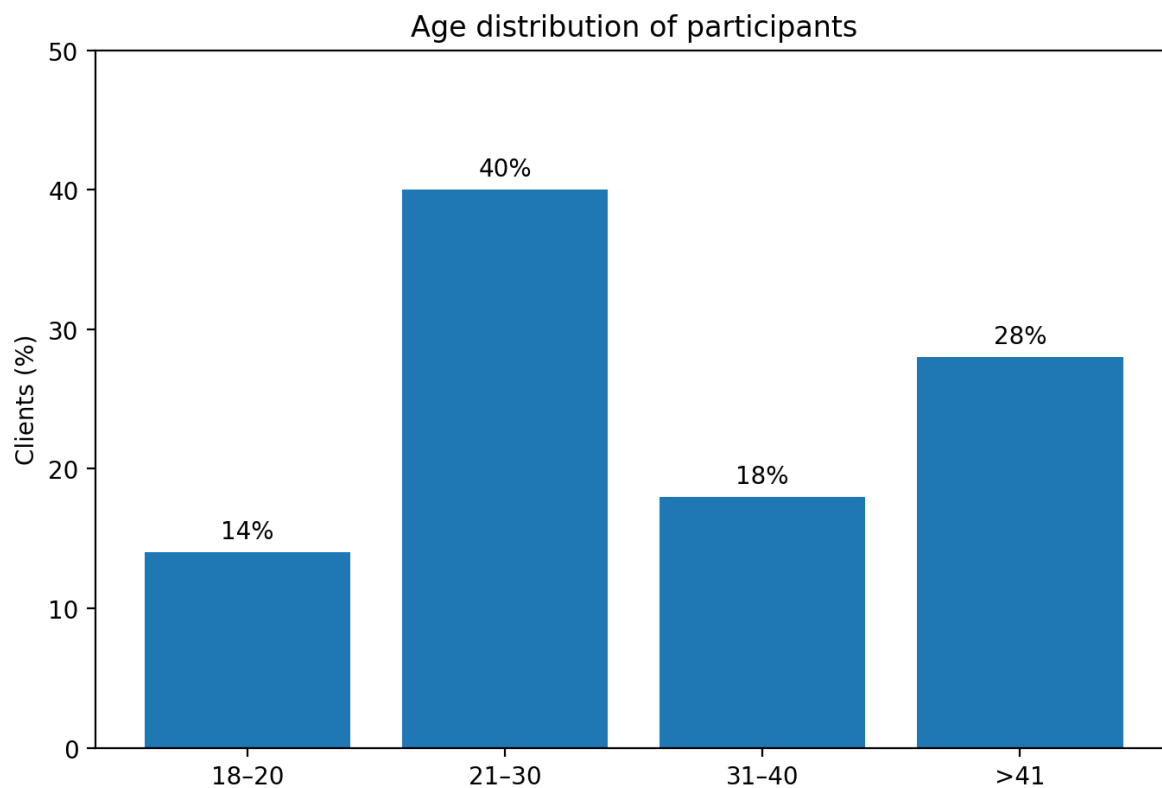


Figure 3. Age distribution of the 50 alcohol withdrawal clients.

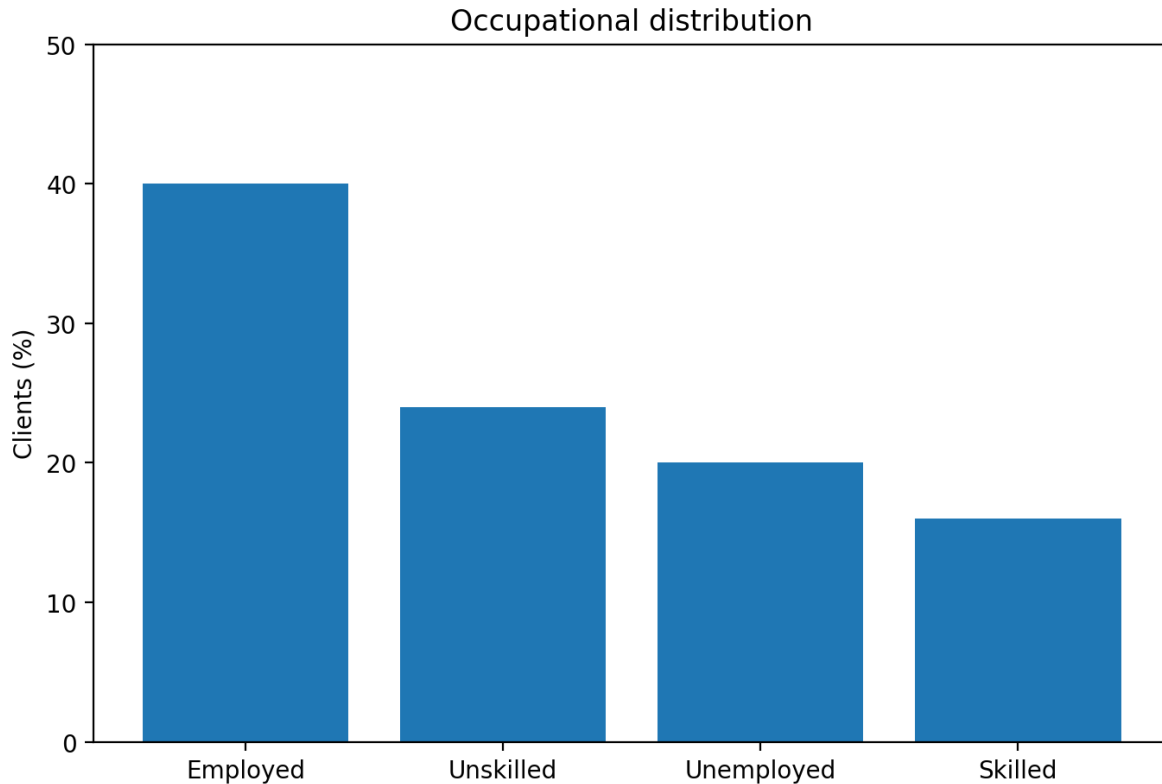


Figure 4. Occupational distribution of the 50 alcohol withdrawal clients.

Pre-Test and Post-Test Quality of Life

At baseline, quality of life was substantially compromised. Thirty-five clients (70%) were classified as having poor quality of life and 15 (30%) had average quality of life. No participant was categorized as having good quality of life. After the structured yoga intervention, the distribution changed markedly: 45 clients (90%) were classified as having good quality of life, five (10%) had average quality of life and none remained in the poor category.

Table 2. Distribution of quality-of-life levels before and after the yoga intervention (N=50).

Quality-of-life level	Pre-test n (%)	Post-test n (%)
Poor	35 (70.0)	0 (0.0)
Average	15 (30.0)	5 (10.0)
Good	0 (0.0)	45 (90.0)
Total	50 (100.0)	50 (100.0)

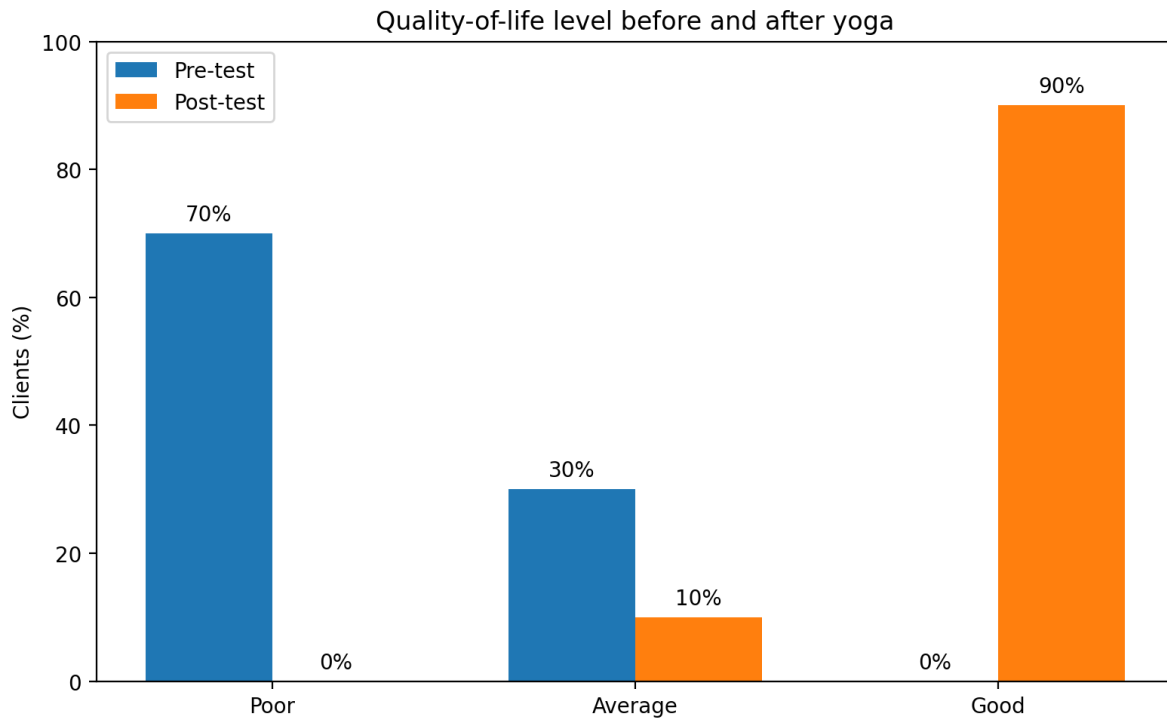


Figure 5. Shift in quality-of-life categories from pre-test to post-test.

Effectiveness of Yoga on Overall Quality of Life

The mean quality-of-life score increased from 38.60 (SD 4.84) before the intervention to 48.04 (SD 2.49) after the intervention. The observed mean gain was 9.44 points. The paired t-value was 10.14 and was statistically significant at $p < 0.05$. The reduction in the standard deviation from 4.84 to 2.49 also indicates that post-test scores were less dispersed around the higher mean than baseline scores.

Table 3. Comparison of pre-test and post-test quality-of-life scores (N=50).

Assessment	Mean	SD	Paired t-value
Pre-test	38.60	4.84	10.14 ($p < 0.05$)
Post-test	48.04	2.49	—
Mean gain	9.44	—	—

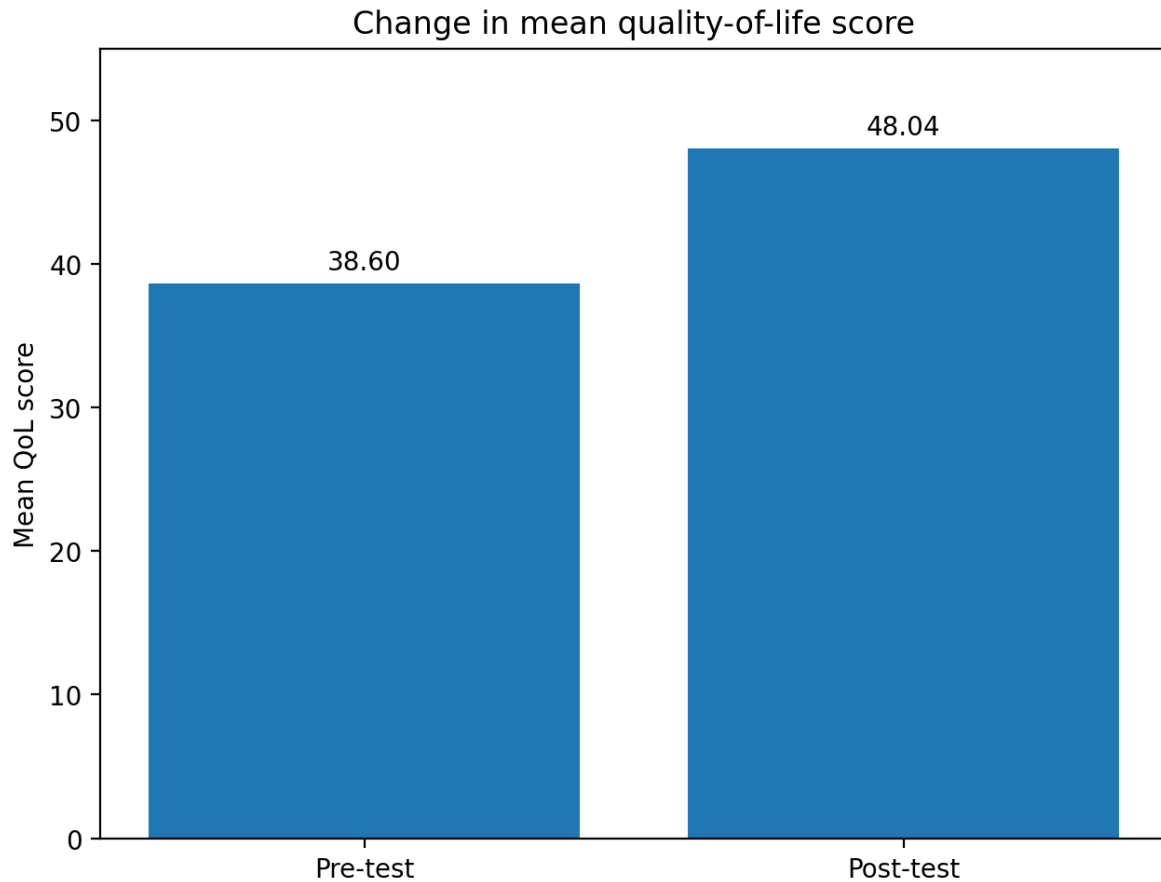


Figure 6. Increase in the mean quality-of-life score following the yoga intervention.

Domain-Wise Improvement

The source data also showed improvement across the reported physiological, psychological, social, economic and educational problem domains. The physiological domain increased from 32% at pre-test to 77% at post-test, representing a 45-point gain. The psychological domain increased from 34% to 70.25%, a 36.2-point gain. Social scores increased from 35.2% to 74.6%, while economic scores increased from 38.7% to 77.8%. Educational scores increased from 37% to 64.8%.

The largest reported improvement was in the physiological domain, followed by the economic and social domains. Although the study used a multidimensional quality-of-life framework, these domain-wise findings add practical detail by showing that improvement was not restricted to one area. Instead, the post-test pattern suggested a broad improvement across the reported areas of functioning.

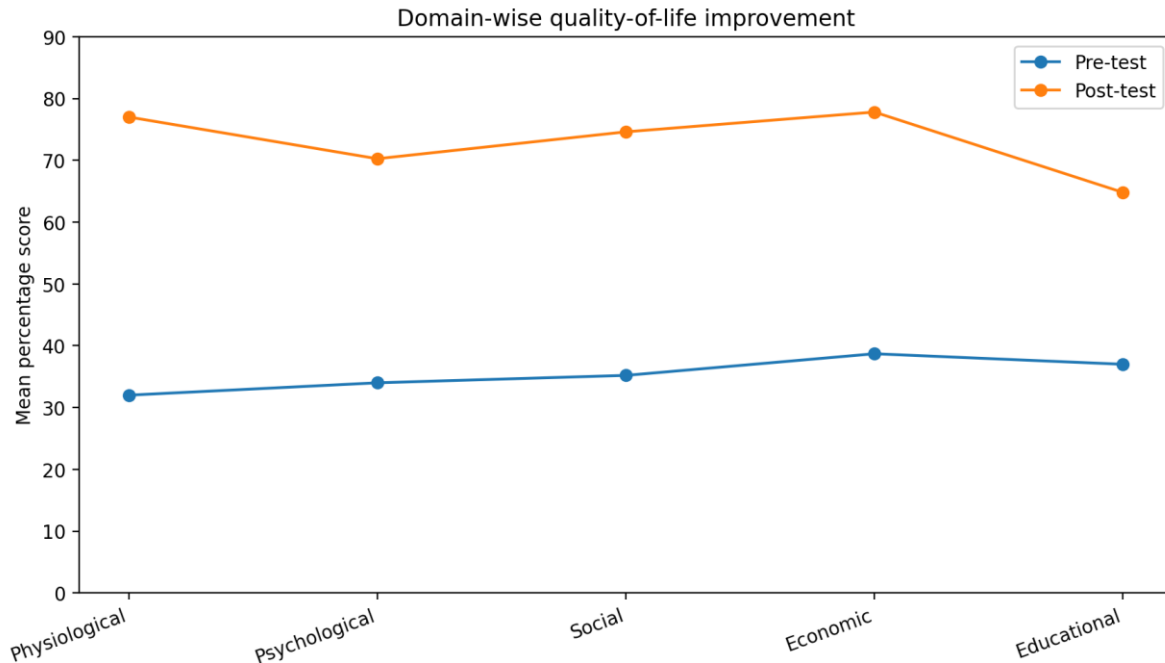


Figure 7. Domain-wise change in reported mean percentage scores.

Association Between Pre-Test Quality of Life and Demographic Variables

Chi-square analysis demonstrated a statistically significant association between educational status and pre-test quality-of-life level ($\chi^2=1.514$, $df=3$, $p=0.002$). The hypothesis concerning association was therefore accepted for educational status. No statistically significant association was reported between pre-test quality of life and age, religion, residence area, family monthly income, occupational status, alcohol dependence severity or years of alcohol consumption ($p>0.05$).

The finding suggests that educational status may have been relevant to baseline quality-of-life differences in this sample, while the other examined characteristics did not show statistically significant relationships. Because the sample was selected purposively and the design was pre-experimental, these associations should be interpreted as findings within the study group rather than as definitive population-level relationships.

DISCUSSION

The study demonstrated a clear improvement in overall quality of life after the structured yoga intervention. The baseline finding that 70% of participants had poor quality of life is consistent with the broader understanding that alcohol dependence can affect multiple dimensions of functioning.

Castillo-Carniglia et al. (2019) described psychiatric comorbidities as common in alcohol use disorder, while Keyes et al. (2022) linked stressful life experiences with alcohol use and alcohol use disorders. These factors provide a context in which physical discomfort, emotional distress and social difficulties may coexist.

The post-test shift was substantial, with 90% of clients reaching the good quality-of-life category. This pattern is compatible with literature examining yoga and well-being. Woodyard (2011) described potential therapeutic effects of yoga on quality of life, and Smith et al. (2020) reviewed psychophysiological determinants associated with yoga and well-being. The present findings extend that rationale to the specific setting of alcohol withdrawal clients attending de-addiction centres.

The mean score increased by 9.44 points and the paired t-value was 10.14 ($p < 0.05$). Similar interest in yoga as an adjunctive intervention in alcohol dependence is reflected in studies and reviews cited in the original article. Varambally et al. (2019) reported a feasibility trial of a yoga-based intervention in alcohol dependence, while Khanna et al. (2022) reported a randomized controlled approach to yoga-based management. Sharma et al. (2023) specifically examined yoga-based intervention in relation to quality of life among individuals with alcohol dependence syndrome.

The domain-wise pattern is also important. Physiological scores showed the largest reported gain, increasing by 45 percentage points. Psychological and social domains also improved considerably. This broad pattern is consistent with the multidimensional nature of yoga-based approaches, which combine physical practice with breathing, attention and relaxation. Pascoe et al. (2017) examined yoga and mindfulness-based stress reduction in relation to stress-related physiological measures, while Pascoe et al. (2024) reviewed mindfulness and physiological markers of stress. The present study does not establish the mechanism of improvement, but the multidimensional intervention and multidimensional outcome provide a plausible framework for understanding the observed change.

The significant association between educational status and baseline quality of life is another relevant finding. Education can be considered in the context of how clients understand health information, interpret treatment options and engage with structured recovery activities. However, the present design does not establish why educational status was associated with baseline quality of life. The absence of significant associations for age, religion, residence, income, occupation, dependence severity and years of alcohol consumption indicates that the observed improvement was not limited to a single demographic subgroup in the available sample.

The findings also have relevance for psychiatric nursing. Nurses are well positioned to deliver structured complementary activities because they can assess readiness, explain the intervention, monitor participation and integrate it with counselling and routine care. Gangadhar (2023) discussed evidence-based integration of yoga in psychiatric practice. Biswas et al. (2020) emphasized evidence-based practices in substance-use-disorder treatment, supporting an approach in which complementary interventions are integrated into broader evidence-informed programmes rather than used in isolation.

The results should nevertheless be interpreted carefully. The study used a one-group pre-test–post-test design without a control group. Therefore, the observed post-test improvement cannot be attributed exclusively to yoga with the same certainty as would be possible in a randomized controlled trial. Natural recovery during withdrawal, routine de-addiction care, counselling, changes in the treatment environment and other unmeasured factors could have contributed to the improvement. The authors themselves identified this limitation and recommended controlled and randomized designs.

Overall, the discussion supports a balanced interpretation: the study provides encouraging evidence that a structured yoga programme was associated with improved quality of life in the selected sample, while stronger experimental designs are required to determine the independent causal effect of yoga. This interpretation is consistent with the broader literature cited in the original article, including systematic reviews of yoga for substance-use-disorder recovery by Park et al. (2022) and Posadzki et al. (2024).

Nursing Significance

For psychiatric nurses, the principal value of the intervention lies in its structured and complementary nature. The nurse does not replace medical withdrawal management; instead, the nurse adds a planned therapeutic activity that may support relaxation, self-regulation and engagement in recovery. The intervention can be positioned within an individualized care plan after considering the client's clinical stability, willingness and ability to participate.

The nursing role may include orientation to the purpose of yoga, demonstration of the selected practices, observation of correct participation, encouragement of regular practice, documentation of tolerance and communication with the multidisciplinary team. Because the study excluded severe withdrawal, the intervention should similarly be applied within appropriate clinical boundaries and not be used as a substitute for urgent management.

CONCLUSION

The present pre-experimental study found that alcohol withdrawal clients had poor quality of life before intervention and demonstrated substantial improvement after participation in a structured yoga programme. The proportion with good quality of life increased from 0% at pre-test to 90% at post-test, while the proportion with poor quality of life declined from 70% to 0%. The mean score increased from 38.60 to 48.04, with a mean gain of 9.44 and a statistically significant paired t-value of 10.14 ($p < 0.05$).

The findings support the use of structured yoga as a feasible complementary component of de-addiction nursing care. The intervention included pranayama, asanas, meditation or mindfulness and Yoga Nidra, providing a multidimensional activity that corresponded with improvement across the reported physiological, psychological, social, economic and educational domains. However, because the study lacked a control group and used purposive sampling, the findings should be considered preliminary and context-specific.

Nursing Implications

Practice: Psychiatric nurses can consider incorporating structured yoga sessions into de-addiction programmes for clinically appropriate clients. The intervention can be integrated with routine observation, counselling, health education and relapse-prevention activities.

Education: Nursing education can introduce students to evidence-informed complementary approaches, including the principles, potential uses and clinical boundaries of yoga in mental-health and substance-use settings. Education should emphasize that complementary approaches are adjunctive and do not replace medically indicated withdrawal management.

Administration: Nurse leaders and de-addiction centre administrators can support the development of simple instructional materials, including posters, booklets and structured session plans. Clear protocols may help standardize the delivery of the intervention and improve continuity between staff members.

Research: Future nursing research should use larger samples, multicentre settings, comparison groups and randomized designs. Further studies can also examine knowledge, attitudes, adherence, nurse-led delivery and longer-term outcomes. Park et al. (2022) and Posadzki et al. (2024) indicate the value of systematic evaluation of yoga-based approaches in substance-use-disorder recovery.

Nursing implications derived from the study



Figure 8. Nursing implications identified from the study findings.

Limitations

The study had a modest sample of 50 participants recruited from selected de-addiction centres in Bangalore through non-probability purposive sampling. Consequently, generalization to all alcohol withdrawal clients should be made cautiously. The one-group pre-test–post-test design did not include a control or comparison group, limiting causal inference. The study also assessed participants within the selected setting and intervention period, so the persistence of improvement over a longer follow-up period was not established in the source data.

Recommendations

Future studies should use randomized controlled designs with larger and more diverse samples and should include appropriate comparison groups. Multicentre studies may improve generalizability. Longer follow-up could determine whether quality-of-life improvements are maintained after discharge from the de-addiction setting. Additional studies may examine adherence to yoga, client acceptability, nurse-facilitated delivery, and the relationship between yoga participation and other recovery outcomes.

The findings also support development of standardized nursing protocols for structured yoga sessions in de-addiction settings, provided that clinical eligibility and safety considerations are clearly defined.

Educational materials can be developed in locally understandable languages to support participation and continuity of practice.

Conflict of Interest

The authors declare no conflict of interest.

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None declared.

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