



Effect of Adjuvant Yoga Therapy on Quality of Life in the Participants of an Alcohol De-Addiction Program

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Abstract:

Introduction: ADS is not a static condition, described in absolute terms, but a life-long illness. It is a phenomenon that depends on the interaction of biological, social, and cultural factors, e.g., religion and the symbolic value of alcohol in each culture, that determines how the person can relate to the substance in the individual and social process of learning how to consume alcohol, thereby affecting the quality of life in the process. **Aim:** To study adjuvant yoga therapy's effects on Quality of life (QOL) in patients undergoing alcohol de-addiction program at de-addiction clinic, department of Psychiatry, Mahatma Gandhi Medical College and Research Institute (MGMC&RI) in Pondicherry. **Settings and design:** 71 male patients undergoing an alcohol de-addiction program were recruited as subjects and randomly divided into Group A, who received Yoga therapy as per the CYTER protocol along with standard medication for daily sessions of up to 1.5 hours each, including daily counseling sessions, for up to two weeks and Group B, who only received standard medical management. **Methods and materials:** Administration of World Health Organization (WHO) Quality of Life Bref version WHO 2004: WHOQOL Bref to all patients before and after the intervention. **Statistical analysis used:** JASP-0.9.2.0 software was used for Statistical analysis. Wilcoxon test was performed for intragroup comparisons, and the Mann-Whitney test was performed for intergroup comparison to arrive at the p values. **Results:** The scores in the intergroup comparisons were as follows: QOL- Physical health (p=0.0002), QOL- Psychological health (p=0.0053), QOL- Social relationship (p=0.2321), QOL- Environment (p=0.0212), QOL- Total Quality of life (p=0.0046). Whereas in the intragroup comparisons, the scores were as follows: QOL- Physical health (p<0.001), QOL- Psychological health (p<0.001), QOL- Social relationship (p<0.05), QOL- Environment (p<0.001), QOL- Total Quality of life (p<0.001). **Conclusions:** The present study supports previous studies on the benefits of Yoga and concludes that yoga therapy helps in spiritually improving the Quality of life of patients with Alcohol Dependence Syndrome (ADS).

Keywords: Yoga, ADS, Quality of life, alcohol, stress, anxiety, depression

Key message:

The Yoga therapy protocol must be a combination (i.e., a package) of yogic counseling, warm-ups (Jathis), Pranayamas, Asanas, Kriyas, Relaxation techniques, and standard medication in treating the ADS patients. The medical fraternity should start recommending yoga therapy during the initial consultation itself such that the patients start receiving the benefits from day one.

Introduction:

Alcohol Dependence Syndrome (ADS) is a group of behavioral, cognitive, and physiological phenomena that develop after repeated substance use. It typically includes a strong desire to take the drug, problems in controlling its use, persisting in its use; despite detrimental consequences, a higher priority given to drug use than other activities and commitments, increased tolerance, and sometimes a physical withdrawal state. The dependence syndrome may be present for a specific psychoactive substance (e.g., tobacco, alcohol, or diazepam), for a class of substances (e.g., opioid drugs), or a more comprehensive range of pharmacologically different psychoactive substances (ICD-10).^[1]

According to the World Health Organisation, more than 5 percent of the disease's overall burden is caused by the global disease crisis linked to alcohol and illicit drug abuse, and the adverse use of alcohol claims 2.5 million lives per year.^[2] There is growing concern regarding drug use disorders in the first year following alcohol or tobacco withdrawal, as relapse rates appear to remain as high as 95 percent.^{[3][4]} Anxiety, by interrelated cognitive, mental, physiological, and behavioral mechanisms, precipitates alcohol relapse. Some of these mechanisms include a conservative stigma against alcohol-related signs, repression of thought, impaired ability to control emotions, and emotional reactivity that contributes to persistent behavioral drug-seeking.^[5]

Southeast Asia and the regions of the Western Pacific continue to display rising alcohol consumption trends. Pure alcohol consumption per capita increased by more than 50 percent between 1980 and 2000 in the Southeast Asia region. Likewise, alcohol intake in India, per capita, increased alarmingly by 106.7 percent between 1970-1972 and 1994-1996. In 2005, India had 62.5 million alcohol users, 17 percent of whom were addicted users, comprising 20 percent-30 percent of hospital admissions due to alcohol-related issues.^[6] In Gujarat's western part, the state-wise prevalence rate is the lowest (7 percent) and the highest (75.0 percent) in Arunachal Pradesh. The prevalence of existing alcohol use has ranged from 33 percent to 50 percent in South India. In Pondicherry, the overall incidence of alcohol use among people aged 18 years was 9.7 percent, and it was 17.1 percent exclusively among males. The highest prevalence was in the age group aged 55 years (17.1 percent). The highest incidence was declining with a rising education level for illiterates and trained to the primary level. Before 20 years of age, one-third of users began drinking, and the most common reason for consuming alcohol was to get relief from pain or exhaustion resulting from their professional work.^[6]

Gitananda Yoga™ (classical Rishiculture ashtanga yoga): Classical Rishiculture Ashtanga Yoga, as synthesized by Yogamaharishi Dr. Swami Gitananda Giri, is the Yoga Parampara of ICYER in Ananda Ashram Pondicherry, South India. Yogamaharishi Dr. Swami Gitananda Giri received the rich Vedic Rishi concepts from his Ashtanga Yoga master, Sri Swami Kakananda Ji, a Bengali saint, who initiated Swami Gitananda into this ancient Yoga teaching at the age of ten in Swamiji's ancestral childhood home in Maharajganj, Bihar. Up until Swami Kakananda's Samadhi on October 26, 1967, Swami Gitananda maintained his connection with his Guru, who lived in Swamiji's ancestral home. The present resident Acharya is Yogacharini Meenakshi Devi Bhavanani (Ammaji), her son Yogacharya Dr. Ananda Balayogi Bhavanani, and Yogacharini Smt. Devasena Bhavanani^[7]

Subjects and Methods:

The sessions were held in the male ward, psychiatry department, MGMC&RI. The patients were screened for the study after fulfilling the inclusion and exclusion criteria. The research was communicated to the patients, and their informed consent was obtained. The Psychiatry Department conducted block randomization, and patients were divided into two groups consisting of Group A, i.e., the 38-subject intervention group (13 discontinued), and Group B, i.e., the 33-subject control group (8 discontinued). For pre-and post-study tests, the World Health Organization QOL (WHOQOL BREF) was used. [8] The intervention group (n=25) underwent personalized yoga sessions daily for up to two weeks, including warm-ups (Jathis), counseling, and standard medicine (as a package), while the control group (n=25) obtained only standard medical management. The research was registered in the Clinical Trials Registry of India (CTRI/2019/06/019583).

In the experimental group, yoga therapy was offered to the patients as per a validated protocol. Based on individual needs, a few minor improvements in practice have been made. The following points formed the basis of the sessions:

- Resting for 1 to 3 minutes before heading in series to the next practice.
- All assignments were performed with slow and controlled movements.
- Take the assistance of the wall, pillar, chair, and cushion.
- Drinking water at regular intervals.
- Usually, the therapist was dressed (without the 'Apron') so that the patients felt comfortable and had the impression of a friend and could approach him in the event of discomfort or doubt.
- In addition to the above, the warm-up techniques (Jathis) and therapy formed a considerable part of the overall package.

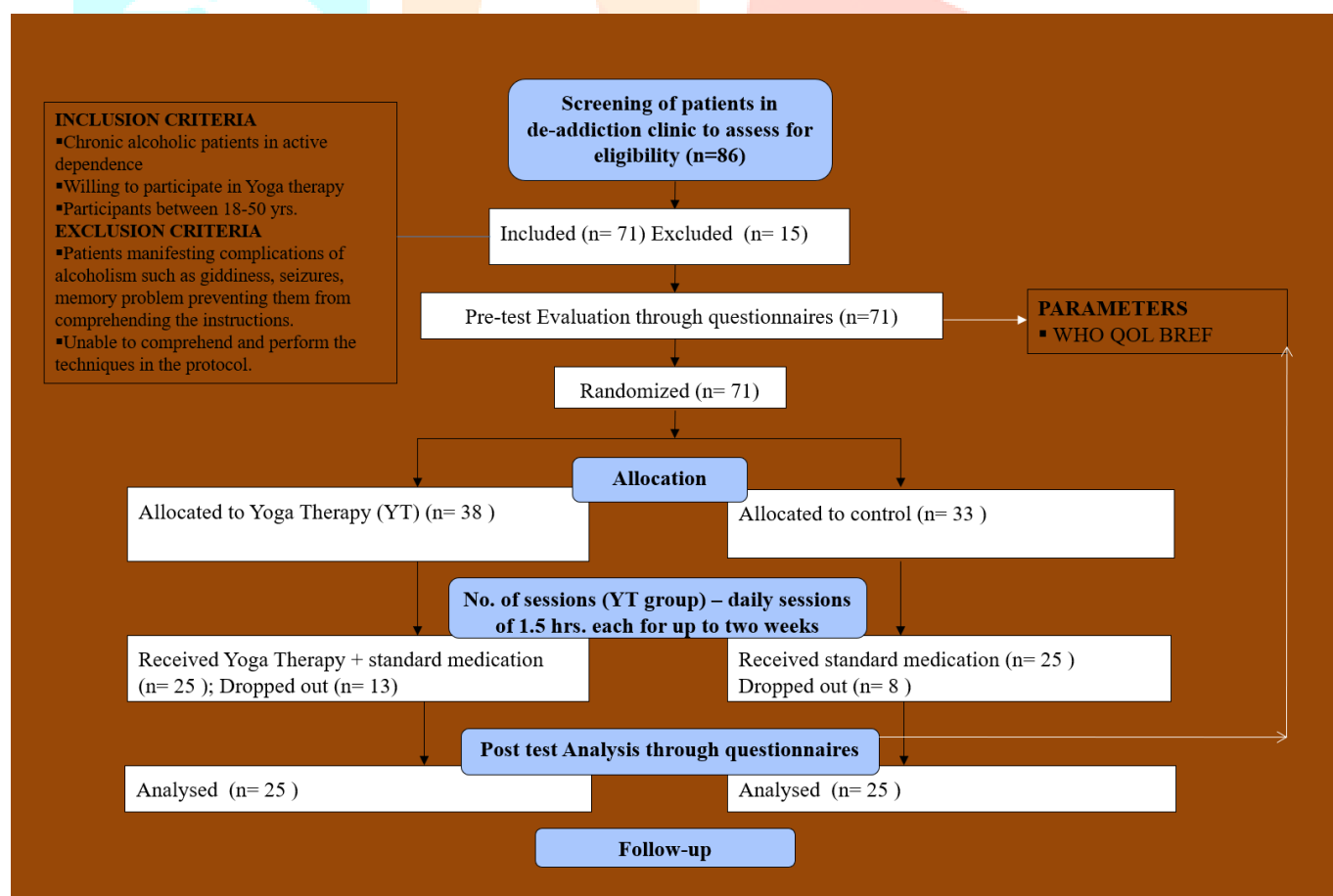


Fig.1: Algorithm about the randomized allocation of participant

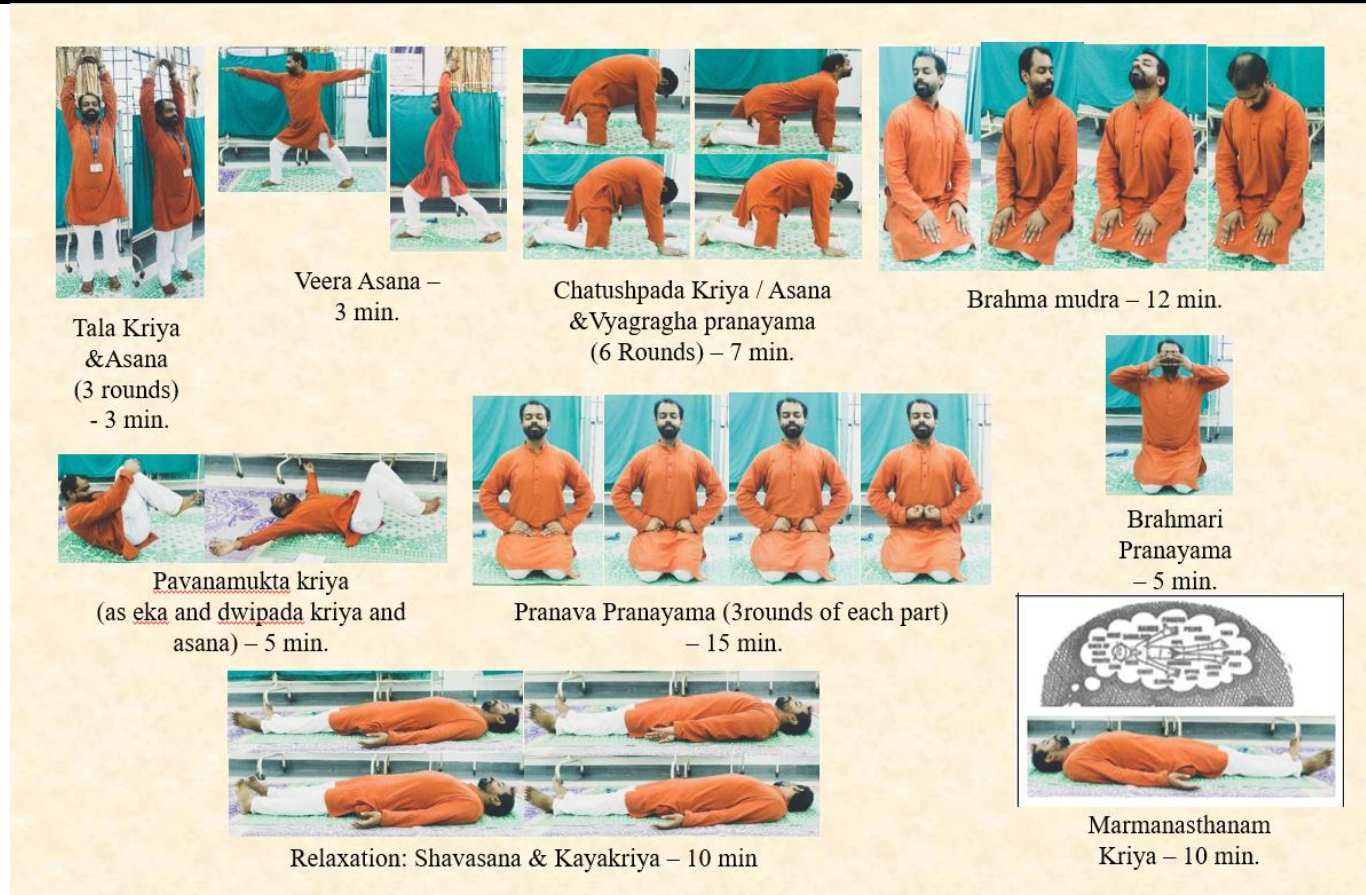


Fig.2: Different Yoga Therapy techniques used for the study (Author's demonstration)

Demographic data:

The median age in the intervention group was 38 years (22-55), and the median age in the control group was 39 years (28-62). All the patients were male, mostly from the villages nearby. Some were wage earners daily, some were fishermen, and some of them had small businesses. Their monthly income ranged from INR 10000-15000. The majority had their own home, and they were married. Most of them had children attending school or college.

Statistical analysis:

The data were analyzed using non-parametric tests because the data did not have any normality. The Wilcoxon matched-pairs signed-ranks test offers the values for intragroup comparison as a median (range). The Mann-Whitney U test offers real P values for intergroup comparison. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ was found to be important in intra-group comparisons and in intergroup comparisons # $p < 0.05$; ## $p < 0.01$; ### $p < 0.001$. The results of the study are given in tables 1-6.

Results:

WHO-QOL-BREF – Physical Health (PH): This score showed significant change ($p=0.0002$) in the overall physical health levels in the intervention group when compared to the control group. The intragroup comparisons showed a significant change ($p<0.001$). However, no significant change was recorded in the control group. The Delta% change showed significance ($p=0.0002$) [Table 1, 6]

WHO-QOL-BREF – Psychological Health (PsH): This score showed significant change ($p=0.0053$) in the overall psychological health levels in the intervention group when compared to the control group. The intragroup comparisons showed a significant change ($p<0.001$). However, no significant change was recorded in the control group. The Delta% change showed significance ($p=0.0333$) [Table 2, 6]

WHO-QOL-BREF – Social relationship (SR): This score showed mild change ($p=0.2321$) in the overall social relationship levels in the intervention group when compared to the control group. The intragroup comparisons showed mild change ($p<0.05$). However, no significant change was recorded in the control group. The Delta% change was also mild ($p=0.5278$) [Table 3, 6]

WHO-QOL-BREF – Environment (Et): This score showed significant change ($p=0.0212$) in the overall environment levels in the intervention group when compared to the control group. The intragroup comparisons showed a significant change ($p<0.001$). However, no significant change was recorded in the control group. The Delta% change showed significance ($p=0.2439$) [Table 4, 6]

WHO-QOL-BREF – Total quality of life (TQL): This parameter score showed significant change ($p=0.0046$) in the total Quality of life levels in the intervention group compared to the control group. The intragroup comparisons showed a significant change ($p<0.001$). However, no significant change was recorded in the control group. The Delta% change showed significance ($p=0.0006$) [Table 5, 6]

Tables:

Table 1. Comparison of the WHO-Quality of Life-BREF (Physical Health) values before and after the study period in yoga and control patients; n=25

	Yoga median (range)	Control median (range)	p-value
Pre	50 (31,75)	56 (38,81)	0.2890
Post	63 (44,88) ***	56 (19,69)	0.0002

Values are given as median (min. value, max. value). *** $p < 0.001$ by Wilcoxon test for intragroup comparisons and actual p values for intergroup comparison by the Mann-Whitney test.

Table 2. Comparison of the WHO-Quality of Life -BREF (Psychological Health) values before and after the study period in yoga and control patients; n=25

	Yoga median (range)	Control median (range)	p-value
Pre	56 (31,81)	50 (31,69)	0.8534
Post	69 (44,88) ***	56 (19,75)	0.0053

Values are given as median (min. value, max. value). *** $p < 0.001$ by Wilcoxon test for intragroup comparisons and actual p values for intergroup comparison by the Mann-Whitney test.

Table 3. Comparison of the WHO-Quality of Life -BREF (Social Relationship) values before and after the study period in yoga and control patients; n=25

	Yoga median (range)	Control median (range)	p-value
Pre	50 (25,81)	50 (19,94)	0.8611
Post	69 (31,100) *	56 (6,94)	0.2321

Values are given as median (min. value, max. value). * $p < 0.05$ by Wilcoxon test for intragroup comparisons and actual p values given for intergroup comparison by Mann-Whitney test.

Table 4. Comparison of the WHO-Quality of Life -BREF (Environment) values before and after the study period in yoga and control patients; n=25

	Yoga median (range)	Control median (range)	p-value
Pre	63 (31,81)	56 (38,81)	0.3168
Post	69 (50,94) ***	63 (31,75)	0.0212

Values are given as median (min. value, max. value). *** $p < 0.001$ by Wilcoxon test for intragroup comparisons and actual p values given for intergroup comparison by the Mann-Whitney test.

Table 5. Comparison of the WHO-Quality of Life -BREF (Total Quality of Life) values before and after the study period in yoga and control patients; n=25

	Yoga median (range)	Control median (range)	p-value
Pre	6 (2,10)	6 (3,10)	0.0908
Post	8 (6,10) ***	7 (2,10)	0.0046

Values are given as median (min. value, max. value). *** $p < 0.001$ by Wilcoxon test for intragroup comparisons and actual p values given for intergroup comparison by the Mann-Whitney test.

Table 6. Comparison of delta percentage ($\Delta\%$) values in yoga and control groups; n=25

WHO-QOL-BREF	Yoga ($\Delta\%$ median (range))	Control ($\Delta\%$ median (range))	p-value
Physical Health	38 (-11.11,141.94)	0 (-56.82,47.37)	0.0002
Psychological Health	23.21(-36.23,122.58)	0 (-44.64,122.5)	0.0333
Social Relationships	0 (-41.33,276)	0 (-80.65,294.7)	0.5278
Environment	12.50 (-18.84,183.87)	8.70 (-39.68,70.45)	0.2439
Total Quality of Life	50 (-20,200)	0 (-50,133.33)	0.0006

Values are given as median (min. value, max. value). Delta (Δ) is the difference between pre and post values in yoga and control groups. Delta% is the percentage change in delta values. Actual p values were given for intergroup comparison by Mann-Whitney test.

Discussion:

The study aimed to understand adjuvant yoga therapy's effects on the 'Quality of life' of ADS patients at the de-addiction clinic, department of psychiatry, MGM&RI. This study was methodologically superior over similar studies wherein the patient was selected after randomization into two groups. Yoga therapy, based on a validated protocol of 'Classical Rishiculture Ashtanga Yoga lineage,' was given by a trained person to patients individually, using a personalized approach and modifications and support wherever necessary.

The WHO-QOL-BREF – Physical health parameter involves various physical aspects of the patient, such as daily living activities, dependence on medicinal substances and medical aids, energy, fatigue, mobility, pain and discomfort, sleep and rest, and work capacity. This parameter is a part of the overall quality of the health of a participant. The intervention group's significant changes conclude that when as a package, the Jathis, Brahma mudra, Sparsha mudra, Pranava AUM, Brahmari pranayama, Pavana Mukta kriyas, and others (fig. 2) and relaxation (as a package) have a positive impact on the overall physical conditions of the patients. Minor to no changes was recorded in the Control group.

It was due to the intervention group being involved in physical activities with lots of loosening, warming-up, and nada (sound) techniques achieving positive health. Whereas the control group was not much physically involved in such practices. They had medicines and slept for most of the time without real movements of the body parts.

The WHO-QOL-BREF – Psychological health parameter involves attributes such as body image and appearance, negative feelings, positive feelings, self-esteem, spirituality/religion / personal beliefs, thinking, learning, memory, and concentration. In the Gitananda yoga tradition^[7], much emphasis is given to loosening, whooshing (throwing negatives out), and sound techniques like animal sound, ha-karas, and AUM chanting. When done regularly, these techniques throw out the negativity and create a sense of security within an individual. These techniques help an individual to open up and make them comfortable dealing with people around them. It lifts their spirits and starts thinking beyond the 'me' component towards the 'we' component. Thus, their focus outgrows their animal nature/survival instincts, and the thought process moves towards being logical instead of being ideological.

The patients, in addition to medical management, require 'spiritual management.' The practices would have given them a sense of freedom, safety, and security, as they opened up more and more each day. As they opened up more, they experienced positivity within themselves. This sense of positivity superseded their anger and grief regarding daily issues, and they, instead of blame-gaming, started accepting the reality in a better way than before. Yoga helps them relax, comprehend things around them, enhance their perspectives, and enable them to open up. The control group patients were in bed most of the time thinking about their disease, work, family issues, and future issues even after getting discharged (based on a conversation with them).

A review by Cappelli et al. in 2017 determined the positive effects of Yoga on stress, depression, and anxiety.^[9] The significant improvements in this study in the intervention group go in line with many previous studies where Yoga was the prime factor in improving the patients' psychological parameters. In one of the studies, Tyagi et al. concluded that yoga practitioners have more significant metabolic variability than non-yoga practitioners and metabolic syndrome patients.^[10] Reddy et al. concluded that yoga therapy plays a significant role in reducing post-traumatic stress disorder (PTSD).^[11]

The WHO-QOL-BREF – Social relationship parameter involves personal relationships, social support, and sexual activity, i.e., the individual's interpersonal and intrapersonal aspects. Since this study was conducted on the male population, it shows a clear picture that most of them started drinking mostly because of personal problems, unsatisfactory support from friends and relatives, and lack of intimacy with their intimate partners. Almost all of the patients in this study were villagers, and their work profiles were like a mason, auto driver, factory workers, laborers, farmers, and mechanics. This section of society is mostly busy with their work to keep their family running in all respects. They work for almost 12-15 hours a day and 6-7 days a week; hence they get very little time for their family members and mostly do not have the right social circle.

The 'excitement' might be missing from their life, and therefore, they fall prey to substance abuse like alcohol, tobacco, drugs, and ganja, which are easy to get and gives them quick relief and excitement. These substances also take them to different realms of ecstasy and provide them the much-needed highs. In intoxication, they start abusing their wife, children, parents, and relatives for being 'no-one' in their lives and still demanding their share of existence from them! On the other hand, they also work better when intoxicated! This aspect is the most difficult and trickiest to handle and requires a lot of effort and time. But the question is, at what cost? How can they do the practices or have timely food or be less dependent on medicine if they have no time of their own? These are the sad realities of our society, and it needs more deep and long-term studies to find a solution.

Statistically, this factor didn't show significant results. It could be due to the above factors. But the standard benefits of Yoga were seen. They got relief by speaking to their fellow patients, the nurses, and the fun yoga sessions conducted for them as part of the intervention. However, the wound they carry was intense and required more and quality time to heal.

The WHO-QOL-BREF – Environment parameter involves matter such as freedom, financial resources, physical safety and security, home environment, opportunities for acquiring new information and skills, health and social care: accessibility and quality, participation in and opportunities for recreation/leisure activities, physical environment (pollution/noise/traffic/climate), and transport. The patients in the intervention group, after some sessions, felt relaxed, fresh, and energetic. It would have given them a sense of freedom, safety, and security, as they opened up more and more each day, thereby experiencing a sense of positivity within themselves. This sense of positivity superseded their anger and grief concerning their daily issues, and they, instead of blame-gaming and nick-nicking, started accepting the reality in a better way than before.

This parameter is more inclined towards the material aspects and human's association with the material for work, pleasure, and day to day living. The material is also separate from humans because they are mostly objects (of desire). The overall processing related to an external object happens in the brain by using the five senses (eyes, ears, nose, tongue, and skin), and hence it's possible to control these senses through a conscious and stable mind. When the senses are under control, people get satisfied in whatever they already have and can manage even with the basic necessities, hence improving their Quality of thought processes and perceptions. It leads to an improved quality of life without any extra investment. The role of Yoga is to empower and transform the mind towards the higher Spiritual aspects, nature, and divinity, along with physical supremacy.

The WHO-QOL-BREF – Total quality of life parameter was the primary parameter used for each participant at the beginning and end of the study and includes Quality of life and health. Statistically, this parameter showed significant improvement in the intervention group, whereas the control group patients didn't show such improvements. The main reason for such discrimination could be the Intervention group receiving Yoga practices and the standard medication, uplifting their spirit, thereby changing the attitude. Whereas the control group only received standard medication and at the time of discharge might have left them feeling that they were 'still' a patient and have to continue with the medicines. Yoga played a crucial role in expanding patients' mindset towards life, both as a complementary and a way of life.

This study suffices the need to study the effect of alcoholism on QOL, as suggested by Reaney et al. in 2008^[12]. It also carries forward the reporting by Sareen et al., who concluded that Yoga as an intervention had significant improvements in the QOL of the patients with chronic pancreatic and improvements in many other parameters.^[13] Since this study is the 3rd and essential part of the overall study (part 1 and part 2)^[16,17], it's

also concluded that Yoga therapy's role in managing stress, anxiety, depression, and craving was significant. The QOL includes these parameters concerning the ADS patients. ^{[16] [17]}

Conclusion:

We conclude from the present study that Yoga as a therapy, along with the standard medical management (as a package) has a definite role in elevating a patient's Quality of life by normalizing stress, anxiety, and depression and reducing craving for alcohol. Quality of life is nothing but our state of mind or perception of things or objects. Although it's the manifestation of the physical reality (that we see), the conclusions are drawn in mind! In worldly life, we start relating material with our life because if we have this or have that, our life would be better! It mainly happens when we start comparing ourselves with others. Thoughts such as 'If they have, I should also have it' or 'I should have better than what they have' are quite common. We start thinking in the future sense and start forecasting, budgeting, and assuming things that do not exist. These bottlenecks are directly and indirectly related to and lead to stress, anxiety for more, and depressive states in the long run. Because of this, a craving for better life arises from within, and we start finding shortcuts. When these shortcuts give more stress, people start taking alcohol, tobacco, opium, marijuana, and other banned/illegal drugs, which gives them quick relief and highs. However, these are harmful to the body, and ultimately, they end up spoiling everything around them. Through Yoga, we can work on these bottlenecks, and with time and practice, things start normalizing. The goal of Yoga is – to balance the mind, body, and spirit, to find a middle path such that everyone exists with peace and harmony.

Yoga is a transformative journey within an individual and brings out the true nature of an individual such that a positive 'Anandam' (blissful Aura) gets created around that person and within the atmosphere. And everyone associated with that person can feel the positivity and benefit from that person in a real spiritual way. Yoga acted as a catalyst and tried to transform the patients as much as possible in the stipulated period. It can be called an 'initiation' towards a better life. However, it all depends on the 4Rs, i.e., Regularity, Repetition, and Rhythm, along with a Reason to reduce suffering. The practitioner should be dedicated and committed to what they are doing.

If their divine bonds, their universal calling, are not related to them, the issue arises with patients, and thus their 'innate spirituality' is missing or are in conflict zones, and then there is often no innate relationship with the higher self. That is where the real illness is. Working at the root cause becomes the therapist's dharma instead of working just on the symptoms. A bond between the patient, the therapist, and the universe is formed during the therapy session. It leads to the spiritual giving and taking of divine energies, leading to the beginning of the healing process. The purpose and efforts of all three parties, however, are the keys. ^[15]

A balanced sattvic diet is also the need of the hour. One important thing to remember is that Yoga is a long-term process, and hence the commitment should also be long-term. Yoga has multiple dimensions and is vast, but it starts with the basics in a step-by-step manner. It is also essential to sustain the start and depend on how they take things forward. The higher aspects might follow depending on the choices an individual makes.

Overall, this study was conducted with love, and all the parameters of QOL were accessed separately, thereby making it a unique study in itself! I hope that this study 'spiritually,' 'clinically,' 'statistically,' 'subjectively,' 'objectively,' and 'qualitatively' answered several questions and paved the way in the correct direction for more studies on the same topic. I hope that my fellow researchers can find more innovative ways of dealing with the quality of life. For the first time, all five WHOQOL Bref scale parameters were separately accessed and presented, including the overall Quality of life parameter.

I hope this study cleared cobwebs, filled the grey areas, and raised questions, which provides an opportunity for future researchers to work on the limitations or feel a small 'clean-up' is required. As Dr. Ananda Balayogi Bhavanani (Director & Professor CYTER, SBV) says, "where the mind goes, prana flows.". Let the mind follow the right path, the path of harmony, balance, and acceptance without any expectations. The path can be different for different people, but the ultimate is Kaivalya. If the mind goes in this path, if the prana flows in this path, i.e., without even knowing and expecting, which means one is doing what needs to be done and one is doing the right thing even though it is difficult then, a time would come when there would be nothing on the other side, and that would be the state of oneness, and that would be the ultimate destination, the ultimate truth (sat) which is Kaivalya. This journey has already started in the lives of the patients of this study.

Recommendations:

- In the management of ADS patients, the Yoga therapy protocol must be a package of yogic counseling, warm-ups (Jathis), Pranayamas, Asanas, Kriyas, relaxation techniques, and regular medicine.
- A more thorough and long-term study, maybe for 3-6 months or even 1 year, with several follow-ups, may be required to be eligible for integration into the AYUSH protocol for the treatment of ADS. It is suggested in a study by Bhagabati et al. that Yoga has progressive benefits over a more extended period. [14]
- During the initial appointment of ADS patients themselves, the medical fraternity should begin promoting Yoga so that patients begin to reap the benefits from day one.

Limitations:

- There is considerably less likelihood of the patient doing Yoga after being released, so long-term benefit estimation is a significant concern.
- Owing to work overload and family obligations, most patients didn't want to stay long, so convincing them was a real challenge.
- Because of their work schedules, family, and financial pressures, there is no guarantee that lifestyle changes are appropriate for them, including dietary changes.

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Conflicts of interest: No conflict of interest was recorded.

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Declaration: This is part 3 of 4 of the same study [16][17]

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