

Chapter 5

Summary and Conclusions

Alcohol Use Disorder, as stated by the DSM-V (APA, 2013), is characterized by craving for alcohol, dependent usage of the substance and tolerance developed over time resulting in withdrawal symptoms when abstaining from use. Cognitive Abilities refers to the processes of higher mental functioning which help in carrying out the day-to-day activities (Robinson, 2012). Alcohol being a depressant is found to inhibit the cognitive functioning of the users. With regular usage, it leads to structural and functional changes in the brain, thus reducing cognitive efficiency (Devere, 2016).

Art therapy involves the usage of different forms of art for purposes directed at bringing about constructive changes in an individual. It fosters creative expression of one's thoughts and feelings where, the in-built healing abilities of the activity help in remediating functions across domains. It is found to strengthen the neural pathways of the brain related to the respective art form practiced, thus enhancing one's cognitive functioning. Different forms of art such as drawing, painting, music, dance, drama, clay-modeling and photography are administered for diagnostic as well as therapeutic purposes. The motivational and encouraging abilities of art, ease of application, time and cost effectiveness are the notable advantages of Art therapy (Edwards, 2004).

The present study was aimed at understanding the deficits in the Cognitive Abilities of people with AUD and remediating them using an art-based therapeutic module developed by me.

Objectives

The objectives of the study were

- To explore the Cognitive Abilities in people with AUD
- To explore the effectiveness of the developed therapeutic module (HACRT) in producing cognitive remediation in people with AUD
- To compare the effectiveness of the different art forms viz. Colouring, Music, Story-Telling and the relational effect of the different forms (HACRT) in producing Cognitive Remediation in people with AUD

- To assess the level of Neuro-Behavioural Functioning status of people with AUD
- To identify the effectiveness of the developed therapeutic module in enhancing the Neuro-Behavioural Functioning of people with AUD
- To compare the effectiveness of the different art forms in enhancing Neuro-Behavioural Functioning in people with AUD

Hypotheses

The following hypotheses were developed so as to fulfill the above objectives.

- There exists a deficit in cognitive Abilities in people with AUD.
- The developed treatment module is effective in bringing about Cognitive Remediation.
- The relational effect of the different art forms is salient when compared to that of the independent art forms in bringing about Cognitive Remediation.
- There will be an impaired level of Neuro-Behavioural Functioning in people with AUD.
- There will be an enhancement in the Neuro-Behavioural Functioning of people with AUD after the intervention.
- The relational effect of the different art forms is more effective in enhancing the Neuro-Behavioural Functioning in people with AUD.

Method

The study comprised of three phases, the pilot phase involving an exploration of the Cognitive Abilities of people with AUD followed by phases I and II, involving the main study. The research followed an experimental design of the pre-test, post-test, wait-list control group model. The independent variable was the incidence of AUD and the dependent variables were the Cognitive Abilities and Neuro-Behavioural Functioning of those diagnosed with AUD. The sample were chosen by incidental sampling method, including 155 males between the ages of 20-60 years, those undergoing de-addiction treatment in accordance with the principles of AA. Data was collected at a private de-addiction centre in Madurai district, Tamil Nadu.

The tools used to assess the respective variables were

- Verbal Fluency and Categorical Fluency- Controlled Oral Word Association Test (Hamster et al., 1994)
- Attention- Trail-making Test (Part A) (Partington & Leiter, 1949)
- Working Memory- Digit Span Test (Weschler, 2008)
- Fine Motor Skills- O'Connor Finger Dexterity Test (O'Connor, 1926)
- Reaction Time- Mobile application based on California Computerised Assessment Package Standard Test Battery (Miller & Satz, 1990)
- Perceptual Speed and Perceptual Accuracy- Digit Letter Substitution Test (Natu & Agarwal, 1995)
- Neuro-Behavioural Functioning- Neuro-Behavioural Functional Inventory (Kreutzer et al., 1999)

Therapeutic Intervention

The therapeutic module developed by me, comprised of three art forms, Colouring, Music, Story-Telling and a combination of the three, HACRT. Colouring involved crayon shading a black outline of different figures, in an increasing order of complexity. Music was presented in an audio form, a combination of binaural beats and acoustic instrumental music for a length of 10mins 17secs. Story-Telling involved presentation of an image, as a visual cue to the subject, relating to which the subject had to narrate a story. HACRT involved a combination of the above said three modules, applied together. Therapeutic intervention was provided for 48 consecutive days, at the end of which the post-test assessment was conducted.

Statistical Analyses

Normality was assumed based on the Central Limits Theorem (Lewis-Beck et al., 2004). Mean and Standard Deviation were used to study the effect of AUD on the Cognitive Abilities and Neuro-Behavioural Functioning of the sample. Paired sample t-test was used for exploring the effectiveness of the developed therapeutic module. One-way ANOVA followed by Duncan Post hoc was applied for gauging the most effective form of art in providing cognitive remediation.

Results

The results of the study showed that people with AUD had a deficit in their Cognitive Abilities and Neuro-Behavioural Functioning compared to non-users of alcohol. The therapeutic intervention using the different art forms and the relative effect of all the three were found to be effective in remediating the Cognitive Abilities of people with AUD. The Neuro-Behavioural Functioning of the sample was also found to be enhanced as an effect of the administered therapeutic module. The independent art forms and HACRT showed different extents of improvement on different Cognitive Abilities and dimensions of Neuro-Behavioural Functioning.

Though the sample were not accessible for follow-up assessment of the Cognitive Abilities and Neuro-Behavioural Functioning, the rate of relapse was studied as a measure of the effectiveness of the administered intervention module. It was found that the intervened sample showed a relapse rate of 8.38% when compared to the non-intervened sample showing 26.88% relapse in a one-year period. The results of the study thus show need for cognitive remediation in rehabilitating people with AUD, reintegrating them into the society and maintaining the goal of abstinence.

Conclusions

The results of the study led to the following conclusions

- People with AUD have deficits in their Cognitive Abilities and Neuro-Behavioural Functioning as a result of alcohol use.
- The developed therapeutic module had been effective in bringing about Cognitive Remediation.
- The Neuro-Behavioural Functioning of people with AUD had improved as an effect of the applied therapeutic intervention.
- The individual art forms and HACRT showed different extents of effectiveness on the Cognitive Abilities and Neuro-Behavioural Functioning.

Ethical Considerations

The following ethical considerations were adhered to in the research process

- Ethical approval was sought from the Institutional Human Ethics Committee.
- The subjects were briefed and debriefed about the process of the study.
- Informed consent was taken from the sample before the commencement of the research.
- Confidentiality of data was maintained.
- The subjects were provided with freedom to make any clarifications as required or to leave the study if they desired to do so.
- My expertise in the administration of Art therapy was ensured through formal training.
- Professional supervision was present throughout the process of data collection and intervention.
- Care was taken so as to address any negative effects that arose during the process of the research.
- The wait-list control group was provided with the intervention after the post-test data collection.

Implications of the Study

The findings of the study have led to the following outcomes

- Understanding the Cognitive Abilities and Neuro-Behavioural Functioning of people with AUD
- Development of an art-based therapeutic module for Cognitive Remediation in people with AUD, which can also be adapted to other populations
- Comprehending the efficacy of the developed therapeutic module, HACRT in bringing about enhancement of Cognitive and Neuro-Behavioural Functioning
- Identifying the effectiveness of different art forms in bringing about the desired change

Limitations of the Study

The following limitations were experienced in the research process.

- The sample size was small with 155 participants, 30 under each group of intervention.

- Female sample were not included in the research.
- Data collection was restricted to one geographical location.
- Assessment of the Cognitive Abilities and Neuro-Behavioural Functioning before the onset of drinking was not measured.
- Extraneous factors such as socio-demographic factors, personality and intellectual abilities were not controlled.
- Only three art-forms, namely, Colouring, Music and Story-Telling were used.
- A follow-up assessment of Cognitive Abilities was not conducted due to inaccessibility of the sample.

Suggestions for Future Research

The above limitations can be addressed by the following suggestions for future research

- The research can be replicated on a larger sample, at different geographical locations.
- A longitudinal study monitoring the Cognitive Abilities and Neuro-Behavioural Functioning of people with AUD across time can be conducted.
- Follow-up assessments at 3-month, 6-month and 1-year intervals can be performed.
- The effectiveness of other art-forms can be established.
- The impact of long-term adherence to the practice of art therapy can be verified.
- The developed therapeutic module can be tested on other conditions involving cognitive deficits.
- The efficacy of the developed therapeutic module in remediating other domains of functioning can also be explored.