

# RESEARCH AND REVIEWS: JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES

## To Assess the Change in “Quality of Care Leading to Change in Outcome” When a Pharmacist Joins the Conventional Alcohol De-Addiction Treatment Team in a Residential De-addiction Centre at Chennai, Tamilnadu, India.

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### Research Article

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#### ABSTRACT

Alcoholism is a time bomb ticking to explode anytime. In alcohol de-addiction there is a clear need for a pharmacist as, The treatment involves medicines, continuous monitoring of patient, The success depends on pharmacotherapy, health maintenance & also Psychotherapy in coordination with a psychiatrist and a physician, counseling the addict as well as the family of the addict, The integrated involvement of all resources, environment and the approach including the communication and clarity of the treatment process and help required to the pharmacist. The main aim of the present study was to identify the gaps as a pharmacist and bridge the same to increase the success rates of the entire de-addiction program. 6 basic parameters were indentified and changes were brought in the centre to observe the change in the outcomes. They were the language of use, the communication aid language, the comfort at the centre, the environmental motivation, the medication adherence and the counselors behavior with the addict. After initial observation with the prevailing circumstances at the centre, certain changes were made in the language, in the communication aid, the medication dispensing procedure, the environment and the behavior of the counselor with the addict. The responses were sought and were analysed. The total score of all the parameters was extremely significant ( $P < 0.0001$ ) after the changes were implemented to bring in a conducive atmosphere at the centre. The addition of a pharmacist can be considered an essential requirement in such scenario where the pharmacological and the non-pharmacological treatments play a vital role in improving the success rates of the outcomes.

#### INTRODUCTION

Alcohol consumption is estimated to cause 1.8 million deaths per year (3.2% of all deaths) worldwide [1]. Alcoholism is a bomb ticking to explode anytime. Alcoholism is a major socioeconomic problem that has no barriers in terms of countries, geographical boundaries, religion or any other limitation. Across the globe, alcoholism is a serious concern that which the governments are trying to fight out. In US One out of every four families are troubled by alcohol and one in every 5 teenagers are alcoholic.

India has more than 80 million alcohol users who use regularly. India ranks 3<sup>rd</sup> in terms of largest alcohol market across the globe. Alcoholism starting age is steadily decreasing is the biggest danger. From 23.36 years between 1950-1960, the age of drinking has come down to 19.45 years between 1980-1990 [2, 3]. Another observation in different part of India has stated that the average age of drinking came down from 28yrs in 1980 to

17yrs in 2007 [4]. Globalisation, poor awareness of the hazards, change in culture, increased availability etc leads to a high level of alcoholism in India.

### The team in the treatment centre

The de-addiction program is done by a group of experts. The team involves a Psychiatrist who is involved from step 1, day 1. Also the entire program is co-ordinate and each admitted addict has a counselor who is everything for him inside the centre and even after the discharge of the particular patient. The next is the Psychologist, followed by a Social worker for coordinating the family and social activities for the addict, followed by a counselor who can be a peer counselor, who had recovered long back from the same process of addiction. The four member team comprising of the Psychiatrist, Psychologist, Social worker & the peer counselor handles the addict/client from day 1 in various stages. Wherever required, a physician or a neurologist is called for where the health related damages are to be tackled. The centre has a full time Nurse & a pharmacy associated with it to tackle any medical emergency. All the lab data analysis services are also provided through a nearby lab to understand the health conditions and organ functions in case damage to the health is suspected. Various symptoms are treated by the respective clinicians from the respective specialty of medicine.

### Indian Scenario – Minimum Standards of Care

In 2009 the National Drug Dependence Treatment Centre, All India Institute of Medical Sciences, New Delhi, formulated Minimum Standards of Care for the Government De-Addiction Centres. The MOH & FW, of the government of India (Drug De addiction program - DDAP) is involved service through 124 treatment centres in the country. They arrived at a consensus about the minimum standards of care required for these centres through The National Drug Dependence Treatment Centre (NDDTC) & AIIMS. This monograph describes various necessary requirements for a de-addiction centre to perform like the infrastructure, services, staffing requirements and other mandatory arrangements for a basic care provision. There are about 430 drug dependence treatment centres as per this survey and 124 of this is run by the government agencies from social justice department or the health ministry and the rest fall under the NGO category. The WHO in the year 2000 prepared a document named International guidelines for the evaluation of treatment services and systems for psychoactive substance use disorders (WHO, 2000). This document provides an overview of methods which should be employed to evaluate substance use treatment services. As a part of its Drug Abuse Treatment Toolkit series, the UNO on Drugs and Crime also produced a document in the year 2003, with the title “Drug Abuse Treatment and Rehabilitation: a Practical Planning and Implementation Guide” (UNODC, 2003) [5].

### Minimum Standards of Care for NGO Sector

Under the Ministry of social justice and empowerment, a minimum standards of care document was formulated by one of the leading NGO in this area for the substance use disorder treatment - The TT Ranganathan Clinical & Research foundation took up this initiative (TTK Hospital) [5, 6, 7]. Now with the increased no. of NGOs in this sector the manual has been recently revised in 2009 which addresses following issues:

- Facilities essential for functioning
- Programmes and frequency
- Roles & responsibilities of staff
- Staff code of ethics and clients rights
- Framework of services & optimum utilization of resources. Etc.

This manual states the following requirements.

#### Most Essential Staff

- Psychiatrist/General physician & A Duty Medical Officer
- Nursing Personnel
- Social Workers/Counselors
- Security Staff
- Laboratory staff
- Pharmacist
- Nursing attendants
- Store Keepers
- Administrative staff
- Housekeeping staff
- Engineering staff

- Catering staff
- M. laundry staff

Here in this list the pharmacist is mentioned along with other staff where he is just listed as a dispensing chemist as there is a pharmacy. According to all the WHO and other world health agencies, the pharmacist is expected to involve in all health promotion and counseling related activities for which he is qualified and is educated & trained too. Even when it comes to counseling the Indian pharmacist needs to be giving a more relative counseling approach and specialty pharmacists can be even developed as there is a need and the scope expands to a larger area. The question here is though it is listed by various government and non government policy makers that a pharmacist should be there in a de-addiction setting, is he involved in a productive way than just dispensing is what is to be noted. With the given setting in the domestic environment, the resources also do not provide much for a qualified pharmacist to be involved full time in the de-addiction team. Like other diseases addiction to a substance to be viewed different by taking the treatment approaches to both Pharmacological and non-pharmacological methods which a pharmacist is exposed to [8,9]. Here in this effort, it was tried to understand on how the outcomes change when a sensitive community conscious pharmacist involves himself in various de-addiction treatment stages by incorporating changes he feels appropriate as all treatment first should focus on the voluntary involvement, clarity and comfort ability of the involved patient/person first.

## MATERIALS AND METHODS

### Aim

Identify gaps in an alcohol de-addiction treatment setting & implement ways to bridge the gap & become a member of the "De-Addiction treatment Team" and analyze whether there is an improvement in the quality of care leading to positive changes in the outcome.

### Objectives

- To identify the gaps existing in the alcohol de-addiction set up
- To bring in changes after identifying the gaps and assess the outcome after changes are made.
- To assess the effectiveness of communication aid used in the Alcohol de-addiction counselling.
- To find out whether the initial comfort at the centre has any impact on the addict in his recovery process.
- To understand whether the environment in the de-addiction setting is conducive for the treatment plan.
- To find out the relationship between language used & communication clarity of the patient.
- To understand the positive changes in medication adherence when professional advice is provided in the de-addiction setting.
- Understand the addicts post counselling mood when a totally positive approach is followed during counselling.
- To understand and to find out what positive changes a pharmacist can bring in a de-addiction setting

### Site of the Study

The study was conducted at a regional de-addiction centre, FREEDOM CARE TRUST at Chennai, Tamilnadu.

- No of beds: 60 beds
- Avg beds filled/month (approx):45-50
- Main specialisation: Alcohol de addiction & drug de addiction
- Other services if any: HIV/AIDS/HCV & physiotherapy
- No of doctors attached to this hospital: 1 psychiatrist + 1 General Physician

### Study Period

Present was carried out and the data was collected during the period June 2012 Mar. 2013

### Study Population

Total population shortlisted 118

Total 82 clients participated and completed the questionnaire study.

A. Before changes: N = 40 clients

B. After changes: N= 42 clients

### Study Criteria

### Inclusion Criteria

- Males only
- Minimum 60 days of stay in the centre for treatment
- Age group between 18 & 65 yrs
- Alcohol addicts only

#### **Exclusion criteria**

- Other drug addicts like Ganja, marijuana & others
- Severe co-morbid conditions like end stage liver damage, severe heart problems etc.,
- Clients under isolation & behavioral disorders
- Clients who are not interested or family had refused

#### **Study Design**

The study was designed to observe and understand the gaps in a regional alcohol de addiction centre and find methods to bridge the gap and to study the outcome changes due to gap bridging. Data was to be collected based on the questionnaires designed in line with the FAST, AUDIT & MAST questionnaires used by various international agencies & also based on the WHO advisory committee recommendations. It was a questionnaire based study.

#### **Data Source**

- The admission files of the addict that contains all demographic data
- Direct interview, friendly discussion & behavior observation to collect his opinion on the study parameters based on various data collection forms.

#### **Designing the Data Collection Form**

The data collection forms were designed based on the

- WHO references
- California Alcohol & Drug programs
- References from US National Library of medicine
- US – National Institutes of health
- Government of India & AIIMS initiative for Minimum standards of care for the De-addiction centres
- National council on alcoholism & drug dependence Inc. US.
- FAST, MAST & AUDIT questionnaires

#### **Selection of the quality of care indicators**

Based on the above references, it was observed that along with pharmacological treatment, Alcoholism required Non pharmacological treatment like the counselling and behavioural treatments, which involve a lot of psychological, psychosocial and psychiatric involvement in making the addict get out of that habit. When it comes to a centre that provides such a care, the above references have mentioned a lot of parameters like the following to be influencing the quality of care.

- The language of communication
- The understanding of the person with the counsellor and the understanding of the proceedings – Clarity
- Medication adherence
- Motivation during the process of De-addiction
- Involvement in the programs conducted at the centre
- The mindset of the patient before, during and after the counselling session

So six questionnaires were prepared after a thorough observation at the centre

- Q1: Communication Aid language – 7 Questions
- Q2: Initial Treatment at the centre – 8 Questions
- Q3: Environmental Motivation – 7 Questions
- Q4: Communication clarity – 6 Questions
- Q5: Medication Adherence – 5 Questions
- Q6: Post Counseling Mood – 6 Questions

## Process of Interaction Planned and Ethical Consideration

As there is a lot of stress and the addict is in fluctuating moods, a written consent had been taken from the clients initially. The respondent had the right to refuse or decide to stop the interview or even withdraw from the participation any time we interact or during the study period. All the information will be kept confidentially and the college ethical committee approval also has been taken. Different questionnaires were taken at different time as the no of questionnaires are also more, so as to reduce any additional stress on the de addiction process and the person himself. These questionnaires were filled over a period of many weeks by the respondents.

## Statistical Tools

The information collected regarding all the selected cases were recorded in a Master Chart. Data analysis was done with the help of computer using Epidemiological Information Package (EPI 2010) developed by Centre for Disease Control, Atlanta.

Using this software range, frequencies, percentages, means, standard deviations, chi square and 'p' values were calculated. Kruskal Wallis chi-square test was used to test the significance of difference between quantitative variables and Yate's chi square test for qualitative variables. A 'p' value less than 0.05 is taken to denote significant relationship.

## OBSERVATIONS AND RESULTS

### Communication aid Language

Counseling is the major non-pharmacological treatment in de addiction treatment plan. There are various levels of implementing the same. The clients are first explained about the treatment process and then they are given study material.

**Table 1: Communication aid language – Visual Aid & brochure**

Communication aid language	Before change (More English, Less Tamil)		After change (Less English, More Tamil)	
	No	%	No	%
Comfortable	4	10	40	95.2
Not comfortable	36	90	2	4.8
<u>Score</u>				
Mean		0.1		0.95
SD		0.3		0.22
Chi square				14.7081
'p'				0.0001 - Significant

This study material involves taking the client through various steps. This material was a established material across the globe & is famously called the "12 Step guide" or the 12 step approach to complete recovery from the substance use disorder. Apart from the medicines the clients receive for the physical treatment and for the withdrawal symptoms, daily there are activities like writing a diary, attending classes on the 12 step approach and various other brochures to be studied and the comments be noted down by the client and discuss with the counselor. For the process of counseling, various audio-visual aids were used.

The majority of the clients are from the mother tounge tamil background. Communication is the most important non-pharmacological tool to bring a consensus in the addict positively. There was a very significant change from just 10% understanding the guide in the first instance to about 95% of the Group B after change group understanding the booklet and who gave a positive feedback. Various addiction counseling competencies have been listed by the US department of Health & Human services, where under the heading application to practices, the Competency 9 is mentioned that speaks loud about Providing treatment appropriate to the cultural identity, personal beliefs & language of the client.

A "P value" of 0.0001 which is mush less than 0.05 very clearly denotes that there is a significant relationship between the improvement in understanding by clients after the change in the language of communication aid was implemented and translated to the native language of the clients. So the counseling aid, the visual aids, the audio visual aids can have a better impact on the client if they are given to the client in their native language or mother tongue. When 12 step guide is almost everything in counseling the client, all reasons were there to make it in the native regional language which yielded positive results.

Initial Comfort In Centre

First impression is the best impression. Every human being is not alike. Especially when it comes to such interpersonal jobs like communicating, changing the beliefs of a person, counselling to correct, help etc., every client needs to be treated differently based on the requirements and the situational demands. This initial comfort was an effort to understand whether the client was comfortable within at-least a weeks time and to understand whether he felt any difference between a locked up environment or a hospital in the initial days and questions on the mingling up with the counsellor or the other clients and taking a free walk out were included. Initially before change it was too strict that even a walk within the compound was to be allowed under a very strict supervision and the counsellors were waiting to make the client comfortable before taking initiatives to open talks with them. It took more than a week for many to even understand that they are in a safe place and they are secure. When this was observed a free walk allowance every alternate day was allowed of course within the premises & all efforts were made by the counsellor to keep the client in a friendly atmosphere.

In the before change group only 4 (10%) felt comfort initially and 6 (15%) were not comfortable at all. Whereas in the after change group, an increased, 10(23%) felt comfortable & the uncomfortable came down to 3 (7.1%).

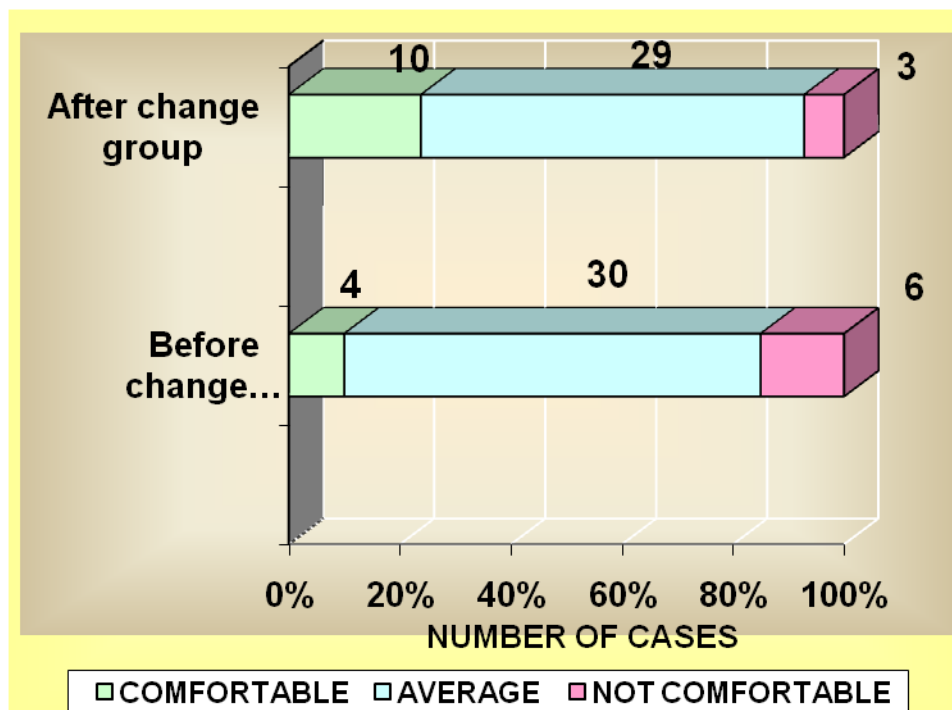


Figure 1: Initial Comfort

The average comfort feeler percentage remained the same. From the above graph it's evident that not comfortable cases have come down and an increase in the comfortable cases can be seen. It becomes the integral part of the community pharmacists' job to make the counseling environment conducive for the change expected in the client. Though after the changes the mean value had shown an improvement, the "p value" did not show any significance from the changes made & probably a lot more efforts are to be made in this regard for a very positive initial comfort provision in the centre. But the results were encouraging.

Environmental Motivation

It was all about the environment of the treatment. An assessment was made about the current observation of the addicts/clients about what they feel about the environment as the motivation from a better environment leads to better results. This has been observed in the pharmacy practice itself in various settings. The intention was to understand whether the building, the set up, the cleanliness, the light availability, the discussion room, the kitchen & all other places had any impact on the process of the motivation of the client for a better involvement or he was just viewing the set up as a hospital was the doubt. Also because of any kind of de motivation anywhere in the set up did he have any thoughts going towards his old habit of drinking were the major questions.

The changes made were in the aspects of cleanliness, Curtains, use of disposables, internal plant pots, motivational posters, brightness in reading room increase, more indoor gaming options etc to keep the building alive.

Though there is a slight change in the mean, going through the actual figures might give a real look into the change that has happened. The men in the after change group was 1.07 whereas before change the mean was 0.95.

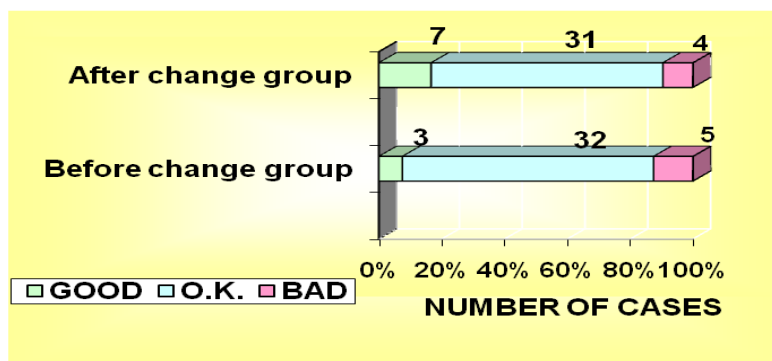


Figure 2: Environmental Motivation

When the Ok motivation percentage had a negative change from 80% in group A to 73.8% in Group B, The good environmental feel went up-to a double figure of 16.7% from 7.5% in the before change group. The percentage of the clientele who did not feel good came down to 9.5% in the after change group from 12.5% in the before change group. Though the change in the percentage is motivating in terms of results the “P Value” did not show any significant change because of the alterations made in the facility of care.

#### Communication Clarity

While the communication aid language brought in a positive feedback from maximum clients, simultaneously all the resources available including the audio, the audio visual, the serenity prayer, the addition of books in the regional language, etc., were also undertaken. The program includes various activities like.

- Diary filling
- A self awareness form filled at various stages of the treatment by the client
- Record keeping & book making about self – history, positives etc
- Reading various Indian & International books from library
- Posters & displays etc

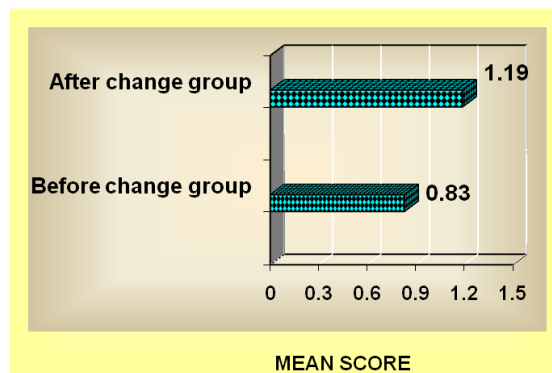
Table 2: Communication clarity from the counselor/books to the client

Environmental clarity	Before change		After change	
	No	%	No	%
Good clarity	3	7.5	12	28.6
OK	27	67.5	26	61.9
No clarity	10	25	4	9.5
<u>Score</u>				
Mean	0.83		1.19	
SD	0.55		0.59	
Chi square	7.6614			
'p'	0.0056 - Significant			

All these were happening mostly in English as was the case with communication aid. As per the reference of the US department of health & human services, it's a most important quality of the pharmacist to ensure that the language of materials is in the language which the client/patient understands. Before the language of books and the writing was changed just 3 clients (7.5%) had good clarity and in the after change group the same went up to 12 clients (28.6%). Whilst the Ok clarity group or the average clarity group remained the same in terms of percentage of clients like, 67.5% & 61.9% respectively in the before change & the after change group.

In total the no clarity group percentage had decreased in group B after changes group to just 9.5% (n=4), from as high as 25% (n=10). This becomes a very important score as the entire change expected from the clients mindset happens during his duration of stay in the centre and this is the basic of the treatment to be provided and this will be the basic also for the follow-up after the client is discharged from the facility and when he starts attending the meetings of the self help groups. It is noteworthy that the self help group discussions and the booklets have been made in the regional language & the brochures are distributed in all languages across the country. Being a regional centre in Tamil Nadu, except Tamil other languages may not be much used even after the

language made. But there always is a possibility of the clients joining from the nearby states with a different language from that region. There had been a significant change in the response from the clients on this mass change which was welcomed with positive note.



**Figure 3: Communication Clarity Mean Score**

There is a significant change in the mean scores of the communication clarity related changes made in the centre indicating that every de-addiction facility also should customize the language and keep all materials ready in the regional languages possible where the success rates can be high compared to copying the books or materials and using the same in English or any other language than the native or the regional language where the centre is functioning. Before change the mean score was just 0.83 and after change there had been a significant change in the mean in the after change group 1.19. There had been a significant outcome change with the change in the language made.

**Medication Adherence Awareness**

The number of drugs prescribed in the population of de addiction treatment clients was considerable in number. The average no of drugs prescribed in the before change group was 3.85 and in the after change group was 4.43.

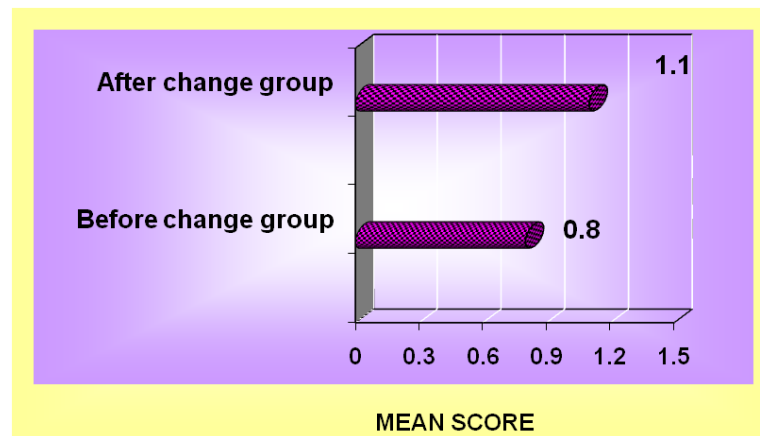
**Table 3: Medication adherence awareness: In the client.**

Medication adherence awareness	Before change		After change	
	No	%	No	%
Good awareness	6	15	11	26.2
Average	20	50	24	57.1
Poor awareness	14	35	7	16.7
<u>Score</u>				
Mean	0.8		1.1	
SD	0.69		0.66	
Chi square	3.8692			
'p'	0.0492 - Significant			

Apart from the anti-craving medications prescribed in the initial stages, the medications prescribed to manage co-morbid conditions, heart ailments, liver damage and many other associated disorders were considerable. These clients have the potential harm of either misuse of the drug or even non compliance. The clients are also potential population to receive medication advice on the proper use of the medicines prescribed to get better benefits and avoid interactions and complications. Mood elevators, Anti-epileptics and Liver tonics were among the most prescribed medications. When the simple survey on the awareness of the client on the medication was conducted, in the before change group it was observed that.

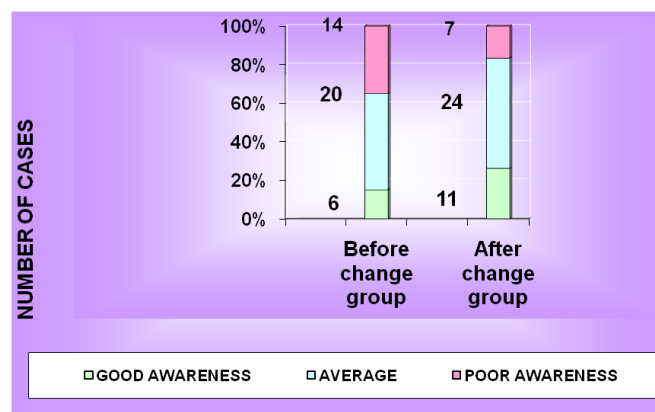
- The medicines were kept with the client and advise was given in general on the time and method to consume etc.,
- Some medications to be taken before food were been taken after food that may lead to non effectiveness of the medication and outcomes affected etc.





**Figure 4: Medication Adherence Awareness Mean Score**

There was a significant improvement in the mean score from 0.8 to 1.1 in the after change group when the people were educated about when to take, how to take the medications and the same was given by the staff nurse before the time of consumption only. The practice of keeping the medication was not practiced in the group B. this was a major change which the after change group experienced.



**Figure 5: Medication Adherence Awareness**

The good awareness numbers increased from 15% (n=6) in before change group to 26.2% (n=11) in after change group, the average also showed an improvement from 50% (n=20) to 57.1% (n=24) and the poor awareness was decreased from 35% (n=14) to 16.7% (n=7) by this continuous service and education. This was a very positive change and the most integral part of the pharmacists job too which had brought in a positiveness in the entire process of treatment as the medications were intended to be taken at the right time, the right way to product the right effect. The P value of 0.0492 was very significant and considered a good change in the Medication adherence awareness criteria.

#### Post Counseling Mood

The counselor is a major turnkey in the entire process of de-addiction. The entire process of the non pharmacological treatment lies in his hands. The counselors were appointed for every person who got admitted for therapy. Sometimes the counselor was changed in between if there was a complaint on the method of handling or the client was not happy the way he is treated. Sometimes though that was intentional to go beyond limits to break open the addicts own barriers, sometimes it may go against the aim of the entire process. There were counselors from various backgrounds. The psychologist was involved, the psychiatrist was involved, the MSW person who understands the socio economic background and cultural base of the addict was involved. Beyond all these peer counselors who were at one point of time in the past dependant and who had fought to come out of the substance dependence were also involved. These all created a positive environment to balance each others positives and negatives, but, every time the client meets the counselor, at-least some improvement is expected out of the meet. Though not improvement every time, at-least some mood elevation or positiveness is a common expectation. This depends on the comfort levels of the client with the counselor, the group of counselors, the process, the language used, the respect he is given by the treatment group, his mindset etc. Before change the group was involved without any external observation. In the after change group, suggestions like.

- Avoiding abusive language,
- Giving good respect,
- Preserving the self esteem of the client,
- Increase in the number of meetings etc., were advised.

These were based on the outcomes in the past from various papers available. The guidelines given to a pharmacist on the way to handle a patient was the same change that was implemented in the centre and the changes observed.

Though there was a slight change in the mean, there was a good change in the positive mood after the changes were made in the centre.

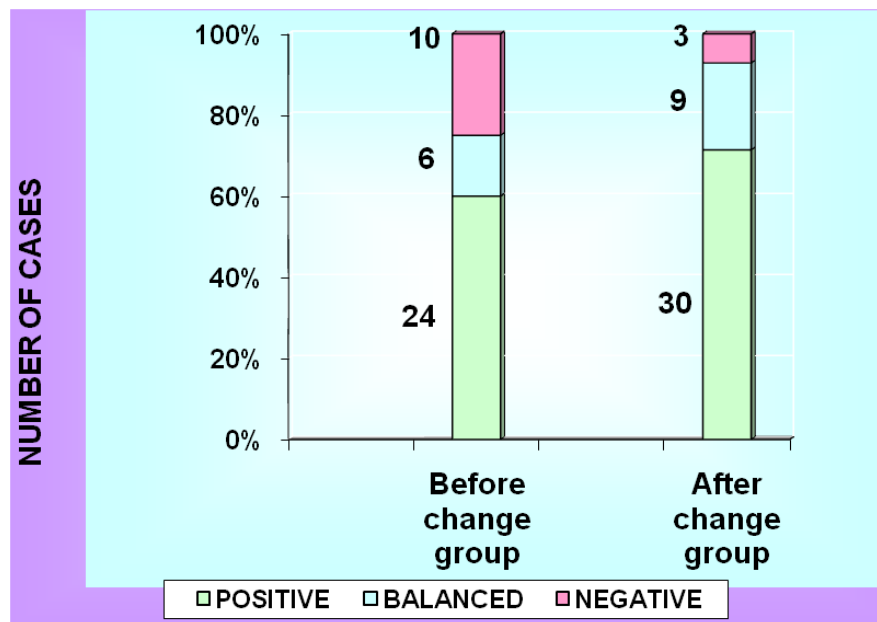


Figure 6: Post Counseling Mood of The Client

Post counseling mood was positive in 71.4% (n=30) of clients, whereas the same was just 60% (n=24). Though balanced mood score had a change, it was not that significant, with 15% (n=6) in the before change group & 21.4% (n=9) in the after change group. There was a positive outcome when the negative post counseling mood in Group A before change came down from 25% (n=10) to just 7.1% (n=3) in the after change Group B. Overall in the post counseling mood score, though the P value was not significant, the outcomes remained positive and this is a motivating factor for the study.

### TOTAL SCORE

The next table following is the final table that shows the outcome of all the combined efforts of the 6 different criteria/changes made in the centre

Table 5: Total score

Total score	Range	Score Mean	SD
Before change	2 - 8	4.98	1.33
After change	4 - 9	7.12	1.13
Chi square		36.6738	
'p'		0.0001 - Significant	

From the above table, it is obvious that the mean in the Group A before change is 4.98 & the mean in the Group B after change group is 7.12 as the range is also varying. The P value is 0.0001 which is very significant.

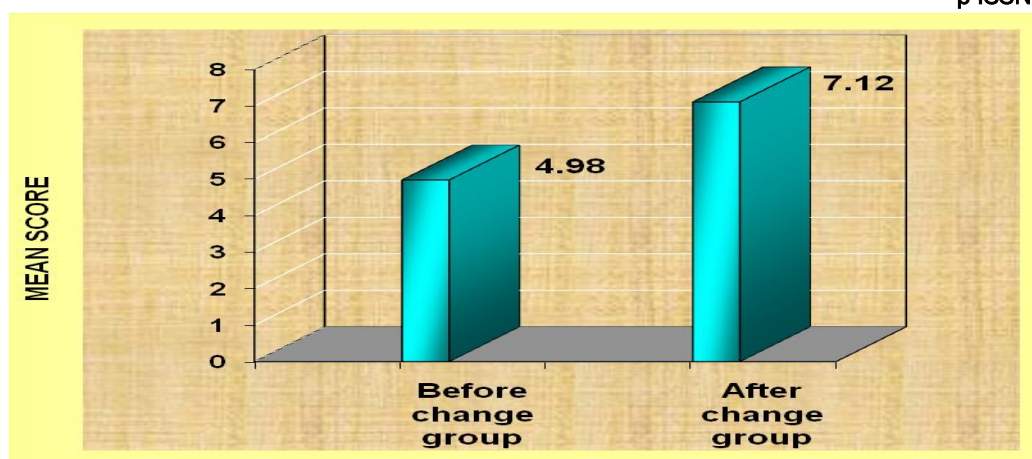


Figure 7: Total Score: Mean

Out of the 6 changes made and data collected, only 3 variables showed significant P values. Though in the other 3 changes made, the results were considerably good and motivating, the P values were not significant enough.

In the initial data like the age, income, no of years of drinking, no of drugs prescribed also the P values were insignificant as that were not the aim for the study. But the changes made have given a overall total score with very significant P value.

This suggests that in the given environment, If a trained pharmacist with appropriate knowledge – in multifunctional fields like the Pharmacological treatment, non pharmacological treatment, In-patient care skills, Psychology, counseling, family counseling etc can be a value addition, specifically in Communication related results, medication adherence & various other professional factors related to the treatment setting.

### CONCLUSION

The study has revealed that the professional changes made in the day to day practices of the alcohol de-addiction centre have had a great impact on the outcome. The changes that were made after a thorough observation in terms of the communication aid language, the medication adherence program in the centre and the clarity in communication have really given a significant improvement in the understanding of the entire process of de-addiction. This has a very important role in relapse prevention also.

This study lucidly shows the need for a pharmacist to join the conventional alcohol de-addiction team comprising of all other experts and professionals like the Psychiatrists, psychologists, social workers and peer counselors.

Though the Minimum standards of care manual of the government prescribes a pharmacists presence for the dispensing purpose, a trained and interested pharmacist may groom himself or be groomed by training as de-addiction pharmacist with specialized skill sets integrating the Psychologists & the Psychiatrists role with counseling.

The outcomes conclude that there was a significant change in the Quality of outcome, when changes were made in the quality of care by the addition of a pharmacist in the regional residential alcohol de-addiction centre and it may lead way to a better service tomorrow if followed by similar, but larger studies.

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